Session Number	Session Title	Session Description	Learning Objectives	Date	Start Time	End Time	Credit Type	Total CE Hours	Mgmt - Bus - Finance	Tech - Engin	Water	Wastewater
TECHNICAL SESSIONS - TECHNICAL SESSIONS - TECHNICAL SESSIONS - TECHNICAL SESSIONS - TECHNICAL SESSIONS - TECHNICAL SESSIONS - TECHNICAL SESSIONS - TECHNICAL SESSIONS - TECHNICAL SESSIONS - TECHNICAL SESSIONS - TECHNICAL SESSIONS - TECHNICAL SESSIONS - TECHNICA												
OGS	Opening General Session	The Water Environment Federation (WEF) envisions a world where everyone lives life free of water challenges. Our members work every day to realize this vision and lead the future of water. The primary water challenges we all face are related to quality, quantity, variability, and accessibility. In this year's Opening General Session, speakers will share their personal water stories, highlighting these critical issues and providing hope and inspiration for the future.	N/A	9/29/2025	8:30 AM	9:30 AM	GCH	1			0.5	0.5
212	AEESP Master Lecture	This prestiguous lecture in 2025 will feature Dr. Bruce Rittman. Join us as we celebrate his commitment to the water and wastewater industry and learn about his research and journey.	N/A	9/29/2025	1:30 PM	3:00 PM	PDH					
207	Anaerobic Treatment of High Strength Industrial Wastewater	Anaerobic treatment strategies can be an effective approach for high-strength industrial wastewater. This session will examine the use of anaerobic treatment for landfill leachate, distillery wastewater, and swine wastewater, with a focus on biogas generation and MBR applications. Together, these papers will highlight the benefits of anaerobic treatment in improving efficiency, sustainability, and resource recovery across diverse industrial wastewater streams.	At the end of this session, participants will be able to: 1.Explain the role of anaerobic treatment when developing cost effective industrial wastewater solutions. 2.Identify the benefits and challenges of implementing MBRs for high strength industrial wastewater treatment. 3.Give examples of resource recovery from industrial wastewater.	9/29/2025	1:30 PM	3:00 PM	PDH	1.5		1.5		0.5
210	Applications and Optimization of MBR Technology	This session will showcase different applications and optimization of MBR technology. First, a case study of a unique tertiary MBR demonstration scale system to achieve nitrification-denitrification (NdN) tertiary using glycerol as the carbon source. Next, another case study of the design, construction, and commissioning of a 32 MGD greenfield BNR and MBR facility. The third case study will look at MBR performance after commissioning by presenting long-term operating data for a full-scale MBR plant to characterize fouling and its interaction with air scour control. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the end of this session, participants will be able to: Identify new applications for MBR technology Summarize the how to implement a new MBR system from design through commissioning Diagnose common challenges in membrane fouling to inform decision making for fouling control	9/29/2025	1:30 PM	3:00 PM	PDH	1.5		1.5		0.5
201	Biosolids Planning from WRF to the WRRF	Embarking on a biosolids planning and implementation program can be a daunting effort for many utilities. A need to navigate a range of existing infrastructure conditions, a rapidly evolving landscape of regulations and technologies, and a drive for operational efficiency combine together to create significant uncertainty for utilities moving into the process. This session starts with an update on WRF developed tools for assessing biosolids treatment approaches, moves into a case study focused adapting planning to a constantly changing environment, and wraps up with a specific case study several years into operation showing real-world impacts of the previously completed planning efforts. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the end of this session, participants will be able to: Recognize the most critical aspects of biosolids planning efforts. Express the benefits of tools and approaches that are designed to facilitate planning efforts. Determine the real-life benefits of effective planning and observe actual financial returns.	9/29/2025	1:30 PM	3:00 PM	PDH	1.5	1.5			0.5
214	Capital Planning: A Springboard for Effective Project Delivery	This facilitated panel discussion brings together utility leaders focused on capital planning and delivery within their organizations. Each leader will share key strategies that have transformed their organizational approaches and driven successful CIP planning and execution. Bring your questions and enthusiasm for CIP planning and delivery! This is a panel discussion. It will not have traditional presentations but instead a dynamic discussion with a set of panelists. Panelists will provide brief remarks and will focus on their discussion and interaction with the audience rather than a presentation.	At the end of this session, participants will be able to: - Recognize common capital planning and delivery challenges encountered by water and wastewater utilities - Identify strategies that may prove beneficial within your own organization, including leadership engagement and organizational change management - Explain the various ways in which utilities plan for capital projects and distinguish between approaches and varied outcomes, lessons learned	9/29/2025	1:30 PM	3:00 PM	PDH	1.5				
204	Densified Activated Sludge (DAS) Fundamentals	Densified activated sludge (DAS) has been recognized as an effective approach to enhance sludge settleability. Beyond settling benefits, DAS systems with a physical selector may provide the ability to decouple the SRT of floc versus granule fractions. However, decoupling aerobic SRT, role of flocs and different size granules impact on process performance and design remain uninvestigated. These presentations aim to advance the development of intensified treatment strategies for the design and optimization of biological nutrient removal (BNR) facilities.	At the end of this activity, participants will be able to: 1. Optimize anaerobic selector zone sizing for effective sludge settleability at low DO 2. Evaluate kinetic contribution of different particle size-classes in DAS for design and optimization 3. Identify minimum bulk aerobic SRT and associated granule fraction needed to sustain nitrification.	9/29/2025	1:30 PM	3:00 PM	PDH	1.5				

203	Disinfection is FUN-damental	Disinfection is often the final step in the treatment process, but it's also the most essential for protecting public health. This session dives into the core principlesâ€"or 'fun-damentals'â€"of disinfection, offering an overview of the core disinfection practices and the pathogens they treat. Understanding these critical processes not only safeguards communities but also creates a ripple effect of safety that extends far beyond the treatment plant.	At the conclusion of this activity, participants will be able to: 1. Describe the types of pathogens in wastewater and why we need to disinfect wastewater. 2. Discuss the basic design and operation concepts, and the advantages and disadvantages of the most common wastewater disinfection technologies. 3. Recognize and compare the various core disinfection practices used today in wastewater.	9/29/2025	1:30 PM	3:00 PM	PDH	1.5		1.5	0.5	1
208	Extreme Reuse: Industrial Water Reuse Cases and Advances	The session begins with an overview of minimum liquid discharge and zero liquid discharge concepts. Water reuse case studies in USA pulp & paper, and Canadian food industries are then presented. Finally a relatively new recirculating reverse osmosis process is presented that allows for extreme reuse of high scaling-potential wastewater.	At the end of this session, participants will be able to:' 1.Fundamental understanding of zero liquid discharge options 2.Case studies of application in industrial wastewaters for reuse 3.New non-fouling recirculating reverse osmosis concept	9/29/2025	1:30 PM	3:00 PM	PDH	1.5		1.5	0.5	0.5
209	Freedom! Liberating Nutrients from Industrial Byproducts for Agricultural Reuse	The circular water economy presents an opportunity for stakeholders to work together to recover nutrients from waste products for reuse, reducing costs and strain on natural resources. Nitrogen-rich industrial wastes can be beneficially reused as a nutrient source in agriculture; however, these waste products often require treatment to meet quality requirements and stabilize nutrients. This session will examine three different industrial waste sources and their associated treatment to demonstrate beneficial agricultural reuse as part of the circular water economy.	At the end of this session, participants will be able to: 1.Identify industrial wastes that can be reused as sustainable agricultural fertilizers. 2.Describe treatment strategies that can be used to transform industrial byproducts into fertilizers. 3.Describe key constituents of concern when developing a land application system.	9/29/2025	1:30 PM	3:00 PM	PDH	1.5	0.5	1		0.5
205	Funding Water Infrastructure: The $64 Trillion Dollar Question	Funding water infrastructure needs across the globe is a major challenge under traditional financial practices and models. State and federal agencies are facing a pressing need to: renew aging water infrastructure; upgrade existing and creating new assets for higher levels of service and increasing populations; increase water systems resilience to natural hazards; and proactively address the anticipated impacts of a changing climate. These agencies must utilize a variety of funding sources â€" both public and private â€" in order to deliver water infrastructure solutions fit for the 21st century.	At the end of this session, participants will be able to: Identify the range of available funding sources, both traditional and non-traditional, for financing water infrastructure. Define the scale of the water infrastructure deficit across the world and in USA. Recall the experience of accessing grant funding from two case studies.	9/29/2025	1:30 PM	3:00 PM	PDH	1.5	1.5		0.5	0.5
211	Low SRT Performance of Membrane Aerated Biofilm Reactors (MABR)	In this session three presentations will demonstrate the biological process capacity advantage that MABR (Membrane Aerated Biofilm Reactor) processes provide by achieving nitrification in systems with very low solids retention times (SRTs). The first presentation describes a theoretical basis for predicting nitrification with MABRs supported by process modelling. The second and third presentations are each case studies of MABRs plants (both international) that demonstrate that low-SRT nitrification is observed at operational WRRFs, resulting in an increase in process capacity.	At the end of this session, participants will be able to: 1. Explain the capacity advantage that MABRs can provide. 2. Compare the nitrification capacity of conventional processes versus MABR processes. 3. Evaluate the feasibility and benefit of implementing MABR in a WRRF retrofit.	9/29/2025	1:30 PM	3:00 PM	PDH	1.5		1.5	0.5	0.5
215	Mastering Critical Asset Management for Long-Term Success	This presentation session explores two critical aspects of wastewater infrastructure management. The first session focuses on Washington D.C.'s innovative strategies to safeguard its critical wastewater system, emphasizing resilience-building efforts, climate change adaptation, and addressing aging infrastructure through advanced technologies and data-driven planning. The second presentation tackles the challenges utilities face in renewing and upgrading aging assets to meet modern demands, including navigating budget constraints, regulatory requirements, and environmental concerns. Attendees will learn about innovative renewal strategies, best practices in asset management, and how utilities can prepare for the future through technology and strategic planning to ensure long-term system sustainability and efficiency.	At the end of this session, participants will be able to: 1. Managing Critical Assets 2. Programmatic Approach for Solutions 3. Innovative Solutions and Strategies	9/29/2025	1:30 PM	3:00 PM	PDH	1.5		1.5	0.5	1
206	Natural Disaster Response and Recovery: Sharing Lessons Learned	When utilities experience natural disasters, they face the reality of whether their preparation efforts were enough to respond to and manage the effects of the events â€" and they often wish they knew then what they know now. A panel discussion will explore lessons learned from response to natural disasters (earthquakes, hurricanes/flooding, and wildfires). These speakers will answer the question: what would I tell myself 5 years ago?Â This is a panel discussion. It will not have traditional presentations but instead a dynamic discussion with a set of panelists. Panelists will provide brief remarks and will focus on their discussion and interaction with the audience rather than a presentation.	At the end of this session, participants will be able to: 1. Compare response and recovery strategies in varying sized utilities for different types of climate events.Â 2. Identify opportunities to improve such efforts as damage assessment, public assistance, and response coordination. 3. Discuss new efforts for building resilience based on lived experiences.	9/29/2025	1:30 PM	3:00 PM	PDH	1.5	0.5	1	0.5	0.5

202	Real Results with Real Time Control	Real-Time Control (RTC) is revolutionizing stormwater and wastewater management by optimizing infrastructure performance and reducing environmental impacts. This session highlights case studies from the UK and France, demonstrating how RTC improves storage, mitigates combined sewer overflows (CSOs), and enhances system resilience. Experts will share key insights, including cost savings, regulatory compliance, and operational efficiencies. Attendees will learn about real-world challenges, successes, and lessons from RTC deployment. Discover how data-driven automation is transforming water management and delivering measurable results. This is a case study analysis session. Each speaker will have 15 minutes for their presentation. Immediately after there will be 10 minutes for case study analysis in smaller groups.	At the end of this session, participants will be able to: 1. Understand RTC Benefits â€“ Learn how Real-Time Control (RTC) optimizes stormwater and wastewater infrastructure to improve storage, reduce combined sewer overflows (CSOs), and enhance system resilience. 2. Explore International Case Studies â€“ Gain insights from real-world RTC implementations in the UK and France, including operational improvements, cost savings, and regulatory compliance. 3. Apply Lessons Learned â€“ Identify key challenges, best practices, and strategies for deploying RTC to maximize efficiency and environmental impact in water management.	9/29/2025	1:30 PM	3:00 PM	PDH	1.5				
216	Tackling the PFAS Puzzle: Addressing Wastewater Effluent Concerns for Reuse	As PFAS regulations extend beyond drinking water and into wastewater systems, utilities face increasing pressure to adopt effective and economical treatment solutions. This session brings together recent research and pilot studies focused on enhancing PFAS removal in municipal wastewater effluent. Presentations explore performance comparisons of adsorbents like GAC, IX, and novel media; the impact of effluent organic matter on adsorption efficiency; and the value of pretreatment technologies such as ozone and biological activated carbon. Attendees will gain insight into cutting-edge treatment configurations for future regulatory compliance and water reuse applications. This is a conversation and input session. Presenters will have 15 minutes and then provide questions to the audience to discuss for 10 minutes.	At the end of this session, participants will be able to: 1. Evaluate the performance and limitations of PFAS adsorption technologiesâ€”GAC, IX, and novel mediaâ€”under wastewater conditions. 2. Examine how effluent organic matter impacts PFAS treatment efficiency and how pretreatment strategies can enhance adsorbent performance. 3. Analyze pilot-scale and bench-scale study outcomes to inform cost-effective PFAS treatment selection and system design for water reuse.	9/29/2025	1:30 PM	3:00 PM	PDH	1.5		1.5	0.5	0.5
217	Training and Retaining Tomorrow's Workforce	Tomorrow's workforce will need to be more technical and engaged than ever before. How can we reinvigorate programs and integrate new tools to develop our teams and set them up for success? Join us to learn about apprenticeship programs, training simulations, and career development to invest in employees from day one through retirement. This is a conversation and input session. Presenters will have 15 minutes and then provide questions to the audience to discuss for 10 minutes.	At the end of this session, participants will be able to: 1. Recognize the value of an apprenticeship program and assess how it can benefit your community. 2. Determine when and how simulations can aid operator training programs. 3. Identify gaps in career path development that can be strengthened and improved for employee retention.	9/29/2025	1:30 PM	3:00 PM	PDH	1.5	1.5			
213	Transforming Stormwater Management with Next-Generation Digital Technologies	This session illustrates the transformative potential of digital applications and innovative technologies in safeguarding water resources and urban spaces. Session presentations include examples of new tools such as AI, 3D printing, and adaptive stormwater management to dynamically design and manage stormwater. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the end of this session, participants will be able to: 1. Identify next generation digital technologies currently being deployed and supporting stormwater designs. 2. Recognize potential tools that could be used to support stormwater designs and the future potential of digital data driven technologies. 3. Discuss how digital technologies can be leveraged in the future.	9/29/2025	1:30 PM	3:00 PM	PDH	1.5		1.5		

234	Balancing Act: Nutrients, Water Quality, and Ecosystems	This session offers an in-depth exploration of the complexities surrounding nutrient management in aquatic ecosystems, featuring three distinct yet interconnected topics. The discussion will begin with an examination of the paradox of stormwater infiltration in arid-urban environments, highlighting its unintended consequences on downstream water quality in Lake Elsinore, California. Following this, the session will address Illinois' Nutrient Loss Reduction Strategy, focusing on the development and implementation of the Nutrient Assessment Reduction Plan (NARP) and the critical role of stakeholder engagement in this process. Finally, the session will investigate the establishment of science-based nutrient goals for reservoir TMDLs in South Carolina, emphasizing the relationship between chlorophyll-a concentrations and beneficial uses. Collectively, these presentations will illuminate the challenges and innovative strategies essential for achieving effective nutrient management and improving water quality.	At the end of this session, participants will be able to: 1. Examine the Paradox of Stormwater Management: Participants will explore the complexities of stormwater infiltration in arid-urban environments and its unintended effects on downstream water quality, particularly in the context of Lake Elsinore, California. 2. Evaluate Stakeholder Engagement Strategies: Attendees will analyze the development and implementation of the Nutrient Assessment Reduction Plan (NARP) in Illinois, focusing on effective stakeholder engagement techniques that facilitate collaboration among diverse groups in nutrient reduction efforts. 3. Assess Science-Based Nutrient Goals: Participants will investigate the process of establishing science-based nutrient goals for reservoir TMDLs in South Carolina, including the relationship between chlorophyll-a concentrations and aquatic ecosystem health, to inform future nutrient management practice.	9/29/2025	3:30 PM	5:00 PM	PDH	1.5		1.5		
527	Bringing Bugs into Focus: Microbial and Genetic Tools for Optimizing WRRF Performance	This session highlights innovative approaches for integrating microbial community analysis and genetic monitoring tools into wastewater treatment process optimization. Presenters will share how techniques such as machine learning, amplicon sequencing, and functional gene tracking can enhance predictive modeling, operational control, and biological nutrient removal performance.	At the end of this session, participants will be able to: 1. Discuss how the composition and dynamics of microbial communities impact biological nutrient removal performance 2. Explore the application of machine learning and genetic sequencing tools for monitoring and predicting WRRF performance. 3. Identify opportunities to integrate microbial and genomic data into process control and decision-making frameworks.	9/29/2025	3:30 PM	5:00 PM	PDH	1.5		1.5	0.5	0.5
222	Data in Action! Data-Driven Optimization Models	Multiple examples of data being successfully leveraged and applied will be discussed. The first step is developing a data integration and optimization process. These processes are then implemented in real-world facilities ranging from 10-200 MGD, followed by an in-depth analysis at one facility. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the conclusion of this activity, participants will be able to: 1. Develop an accurate data governance framework based on a set of rules and standards. 2. Compare successful data algorithms implemented at a variety of facilities. 3. Predict future plant conditions using process models for informed decision making.	9/29/2025	3:30 PM	5:00 PM	PDH	1.5		1.5	0.5	0.5
231	Decarbonizing Water: International Efforts to Measure and Reduce Process N2O Emissions	Session includes three presentations from researchers working on full-scale N2O monitoring and reduction. The first two presentations cover full-scale measurement from 15 and 21 WRRFs, respectively. The third presentation takes a deeper dive into how liquid-phase measurements correlate with actual emissions by use of four different methodologies and KLa's for N2O against measured N2O emissions from a four-pass, activated-sludge system. This session will kick-off the Water Decarbonization Journey at WEFTEC. This is a panel discussion. It will not have traditional presentations but instead a dynamic discussion with a set of panelists. Panelists will provide brief remarks and will focus on their discussion and interaction with the audience rather than a presentation.	At the end of this session, participants will be able to: 1.Recognize how diverse and divergent measured N2O emissions are from WRRF to WRRF. 2.Develop an appreciation for how measurement techniques can affect the measured emissions. 3.Assess how assumed KLa affects emissions estimates.	9/29/2025	3:30 PM	5:00 PM	PDH	1.5	0.5	1	0.5	0.5
232	Efficient Flow: Innovative Strategies for Asset Management	This session will cover key strategies for enhancing asset management. The first explores integrating proactive maintenance practices like predictive, preventive, and corrective maintenance to improve system resilience, reduce downtime, and boost service reliability. The second highlights the importance of human capital in executing successful Condition Assessment Programs (CAP), focusing on the need for skilled personnel, training, and effective resource allocation to ensure accurate assessments and long-term asset performance. Finally, Evansville Water and Sewer Utilities shares its journey toward asset management excellence, emphasizing strategies, tools, and best practices that improve operational efficiency, reduce costs, and extend infrastructure lifespan through data-driven decision-making and continuous improvement.	At the end of this session, participants will be able to: 1. Apply efficient Asset Management and proactive Maintenance 2. Demonstrate continuous Utility Improvements 3. Recognize the importance of Human Capital	9/29/2025	3:30 PM	5:00 PM	PDH	1.5		1.5	0.5	0.5

226	Full-Scale Shortcut Nitrogen Removal	These case studies present shortcut nitrogen removal in full-scale plants. Advanced nitrogen removal strategies will be evaluated by comparing effluent quality, air requirements and capital costs for both sidestream and mainstream. Participants will apply key findings from a demonstration plant to develop the detailed design of a full-scale facility that achieves energy neutrality. The final case study couples densified activated sludge (DAS) with PdNA in tertiary MBBRs to meet stringent nutrient limits. Participants will identify lessons learned and considerations to support DAS/PdNA operation. This is a case study analysis session. Each speaker will have 15 minutes for their presentation. Immediately after there will be 10 minutes for case study analysis in smaller groups.	At the end of this session, participants will be able to: 1. Compare innovative strategies to achieve stringent TN discharge limits while maintaining operational and cost efficiency. 2. Analyze key findings from a short-cut nitrogen removal demonstration plant to develop a successful full-scale operation with unprecedented energy neutrality. 3. Demonstrate full-scale densification with mainstream deammonification via PdNA and summarize lessons learned.	9/29/2025	3:30 PM	5:00 PM	PDH	1.5		1.5		0.5
221	How Do Upstream Processes Impact Disinfection Systems?	As the final process in traditional wastewater treatment facilities, disinfection is naturally impacted by the water quality produced by upstream processes. In particular, the operation of secondary treatment systems has significant effects on disinfection requirements. This session will address the impacts of implementing biological nutrient removal (BNR), membrane bioreactors (MBRs), and nano bubble technology on disinfection operations. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the conclusion of this activity, participants will be able to: 1. Describe how pathogen reduction by membrane bioreactors affects downstream disinfection systems for a variety of facility sizes. 2. At the conclusion of this activity, participants will be able to describe how the implementation of BNR systems and the resulting variable ammonia concentrations can affect chlorination processes. 3. At the conclusion of this activity, participants will be able to discuss the potential benefits of nanobubble technology on disinfection operations and general effluent water quality.	9/29/2025	3:30 PM	5:00 PM	PDH	1.5		1.5	0.5	0.5
227	Innovative Approaches to Design and Optimization	This knowledge development forum will explore innovative approaches to design and optimization. The use of frameworks for facilitating design decisions, the use of digital twins to reduce capital cost, and the development of a digital protocol to optimize nutrient removal performance will all be explored. This is a Knowledge Development Forum (KDF) session. Speaker presentations are brief and are meant to stimulate questions and an exchange of information. The conversation is kept moving by instigators who will ask tough questions.	At the end of this session, participants will be able to: Assess approaches for establishing a protocol to guide design decisions Evaluate the benefits of using digital twins as a design optimization tool Relate how digital tools can be used to optimize nutrient removal	9/29/2025	3:30 PM	5:00 PM	PDH	1.5	0.5	1	0.5	0.5
233	MBR: What It Can Do For You	MBR technology gaining popularity lately due to the stringent effluent discharge criteria and water reuse. You should be utilizing wisely the certain features of the MBR technology. This session will share experience and lessons learned how you can get the most out of this advanced technology. This is a Knowledge Development Forum (KDF) session. Speaker presentations are brief and are meant to stimulate questions and an exchange of information. The conversation is kept moving by instigators who will ask tough questions.	At the end of this session, participants will be able to: 1. Determine beneficial features of MBR compared to other activated sludge technologies. 2. Assess flexibility of MBR design. 3. Establish how combining MBR with other processes can improve performance.	9/29/2025	3:30 PM	5:00 PM	PDH	1.5		1.5		1
219	Navigating Consent Orders and Master Plans	This session explores the challenges and strategies involved in implementing consent orders and master plans for collection system improvements. Many communities facing sewer overflows must comply with regulatory mandates, requiring careful planning from initial negotiations through project execution and certification. Attendees will gain valuable insights into navigating the complexities of consent orders, avoiding common pitfalls, meeting performance criteria, and adapting to population projection and system demand changes. Case studies will provide real-world examples of effective planning and compliance strategies.	At the conclusion of this activity, participants will be able to: 1. Explore effective strategies for consent order programmatic approaches to mitigating combined and sanitary sewer overflows (CSOs and SSOs), including best practices and project certifications. 2. Develop adaptive approaches for adjusting master plan elements during implementation to address evolving needs and external factors. 3. Examine examples of successful consent decrees to understand challenges, solutions, and outcomes. '	9/29/2025	3:30 PM	5:00 PM	PDH	1.5	0.5	1		0.5
224	Navigating the Challenges and Changing Landscape of Strategies, Policies and Inclusive Practices in Water	This session will explore the evolving challenges and opportunities in developing and implementing strategies, policies, and inclusive practices within the water sector. From addressing social equity to adapting to environmental and policy shifts, attendees will gain insights into how various parts of the water ecosystem are navigating these uncertainties. This session will bring perspectives from the public sector, private sector and broader water community to bring collective awareness. This is a panel discussion. It will not have traditional presentations but instead a dynamic discussion with a set of panelists. Panelists will provide brief remarks and will focus on their discussion and interaction with the audience rather than a presentation.	At the end of this session, participants will be able to: 1.Identification of key challenges and opportunities that are facing the water sector in responding to changing policies, strategies and optimization of inclusive practices. 2.Identify how various parts of the water sector are responding to changing expectations and requirements. 3.Engaging in interactive exchange with industry SMEs	9/29/2025	3:30 PM	5:00 PM	PDH	1.5	1.5		0.5	0.5

218	PFAS in Wastewater and Biosolids: Novel Measurement Methods and Fate During Thermal Processes	Join us in exploring the intricate world of PFAS and biosolids by navigating the various measurement methods and cutting-edge research on the fate of PFAS during thermal treatment processes. This session will cover the different types of PFAS measurement methods. Participants will learn what conclusions can and cannot be drawn from the results of each method and how to select the most suitable method tailored to their specific needs. The session will highlight the fate of PFAS. Drying reduces PFAS concentration in biosolids, whereas pyrolysis and gasification generate transformation byproducts that appear in effluent liquid and gaseous products. Don't miss this opportunity to broaden your knowledge and stay at the forefront of advancements in the complex realms of PFAS analysis.	At the conclusion of this activity, participants will be able to: 1. Understand what analytical tools are available for testing PFAS in wastewater and how their utility compares to one another. 2. Describe the composition and true levels of PFAS present in various wastewater samples. 3. Understand the difference between removal, transformation, and destruction of PFAS. 4. Recognize that drying can reduce PFAS in biosolids. 5. Comprehend that pyrolysis and gasification can remove PFAS from biochar but also form transformation products.	9/29/2025	3:30 PM	5:00 PM	PDH	1.5		1.5		1
230	Rewriting the Rules: Smarter Approaches to Stormwater Compliance	This session highlights practical solutions to compliance gaps and challenges using three case studies of post-construction stormwater management and watershed-scale approaches. Speakers will share practical guidance and tools that support flexible design solutions for non-infiltrating sites, transitioning temporary sediment controls into long-term BMPs, and completing early-stage project evaluation using GIS and regional coordination frameworks. Highlighting Florida DOT's WATERSS process and Oakland County, MI's MEP standards and stormwater reuse strategies, this session highlights how agencies and designers can embrace innovation and integrated planning in practical ways. Attendees will gain knowledge of replicable models for regulatory clarity, cost-effective compliance, and watershed-scale compliance. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the end of this session, participants will be able to: 1. Define and apply Maximum Extent Practicable (MEP) standards to post-construction stormwater design on sites with limited infiltration capacity. 2. Identify key steps to transition temporary sediment and erosion controls into permanent BMPs that meet long-term stormwater compliance requirements. 3. Apply integrated planning and GIS-based screening tools to evaluate regional stormwater opportunities and guide project development within a watershed context.	9/29/2025	3:30 PM	5:00 PM	PDH	1.5		1.5		
225	Solutions and Ideas From Award Winning Industrial Experts	We will hear from and honor this year's recipients of the distinguished Wes Eckenfelder Award, the Industrial Water Quality Achievement Award, the McKee Groundwater Award and the Rudolf'ss Paper Award. The topics and featured projects will be of interest to those in the industrial wastewater community. At the conclusion of this featured session, we invite you to join us at the annual Industrial Reception for recognition of each of our industrial awards recipients, and to enjoy some refreshments with our colleagues and friends.	At the end of this session, participants will be able to: 1. Apply career advice from distinguished industrial award winners. 2. Recognize attributes of award-winning industrial project execution. 3. Compare career and project highlights as related by industrial award winners.	9/29/2025	3:30 PM	5:00 PM	PDH	1.5	1.5			
220	Techniques for Modeling I/I Source Reduction Benefits	Predicting the effectiveness and cost of I&I reduction approaches presents challenges for utilities as they develop their capital improvement programs/master plans/regulatory corrective action plans because there are no recognized standards for this. This session will present a range of techniques used when modeling proposed I/I reductions. This session will explore methods for both assigning I&I reduction values and for adjusting parameters within the model to represent various combinations of source reduction measures. This session seeks to engage subject matter experts (SMEs) and attendees in a debate of the pros and cons of the different approaches and work to definition of standard practices for this important aspect of planning. This is a Knowledge Development Forum (KDF) session. Speaker presentations are brief and are meant to stimulate questions and an exchange of information. The conversation is kept moving by instigators who will ask tough questions.	At the end of this session, participants will be able to: 1. Classify the basis for, accuracies of, and the model preparation requirements for a variety of source reduction modeling techniques. 2. Differentiate between the various modeling parameters used to adjust rainfall derived inflow and infiltration and dry weather groundwater infiltration flow characteristics/responses to simulate source reduction measures. 3. Critique potential limitations in the presented approaches and propose improvements for simulating I&I reductions.	9/29/2025	3:30 PM	5:00 PM	PDH	1.5		1.5		0.5
228	Understanding Clarifier Settleability from Fundamental to Intensification Process	As climates are changing, WRRFs operations are challenged by increased wastewater flow (wet weather flow) and facilities must need to optimize and evaluate clarifier capacity intensification. This session presents a comprehensive view of clarifier settleability performance for secondary clarifier and biologically enhanced carbon diversion process clarifier (1st stage of two-stage process). Pilot scale and full-scale research highlight the performance of clarifier for conventional activated sludge, densified activated sludge and high-rate activated sludges operating at low SRT.	At the end of this session, participants will be able to: 1. Identify how solids loading rate de-rating factor can be impacted by activated sludge operating mode, surface overflow rate, and clarifier configuration. 2. Operate the implementation of densified activated sludge system enhances clarifier settleability. 3. Evaluate high-rate activated sludge systems settleability using video analysis.	9/29/2025	3:30 PM	5:00 PM	PDH	1.5		1.5		1
223	What Stinks? Community Engagement to Odor Solutions	Advancements in tools and technologies are enhancing community engagement, modeling, monitoring, and mitigation of odor and corrosion issues in wastewater systems. This session will present three case studies showcasing innovative approaches, including crowdsourced odor feedback, sulfide generation, ventilation, and dispersion modeling, odor compound monitoring, and the evaluation and implementation of effective odor control solutions. This is a case study analysis session. Each speaker will have 15 minutes for their presentation. Immediately after there will be 10 minutes for case study analysis in smaller groups.	At the conclusion of this activity, participants will be able to: 1. Identify tools for community engagement, odor evaluation, and mitigation of odor and corrosion issues to consider these tools in their systems. 2. Compare evaluation and treatment options for odor and corrosion control and select technologies for their systems. 3. Determine the most appropriate tools for odor analysis and mitigation for use in their specific wastewater systems.	9/29/2025	3:30 PM	5:00 PM	PDH	1.5	0.5	1		1

313	Advancing Resilience through Innovative Sustainable Practices	Extreme weather events are causing water sector utilities to explore opportunities to explore, research, pilot test, adopt, and scale sustainable energy management efforts to make water and wastewater infrastructure resilient to climate impacts. This facilitated session will focus on three utility case studies where utilities have adopted different sustainability efforts to achieve organization resilience. Example sustainability topics include - adoption of sustainable industry standards such as ISI and ESG, and energy management and optimization. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the end of this session, participants will be able to: 1. Determine how to incorporate sustainability best practices into utility operations. 2. Discuss utility case examples around energy management and optimization. 3. Recall lessons learned	9/30/2025	8:30 AM	10:00 AM	PDH	1.5	1.5		0.5	0.5
303	Condition Assessment from Laterals to Interceptors	Effective condition assessment is essential for maintaining sewer system performance, minimizing failures, and prioritizing rehabilitation efforts. This session explores best practices and emerging technologies for assessing infrastructure at all levelsâ€"from small-diameter laterals to large interceptors. Experts will discuss inspection methods, data analytics, and risk-based approaches to evaluate asset condition, optimize maintenance, and extend service life. Case studies will highlight successful assessment programs and innovative tools that enhance decision-making. Attendees will gain practical insights into improving system reliability and planning cost-effective interventions. This is a case study analysis session. Each speaker will have 15 minutes for their presentation. Immediately after there will be 10 minutes for case study analysis in smaller groups.	At the end of this session, participants will be able to: 1. Understand Multi-Scale Condition Assessment â€" Learn how to evaluate sewer infrastructure from laterals to interceptors using various inspection methods and technologies. 2. Leverage Data for Decision-Making â€" Explore how data analytics and risk-based approaches enhance asset management, prioritization, and maintenance planning. 3. Apply Best Practices and Innovations â€" Gain insights from case studies on successful assessment programs and innovative tools that improve system reliability and cost-effectiveness.	9/30/2025	8:30 AM	10:00 AM	PDH	1.5		1.5		0.5
307	Decarbonizing Water: Mitigating N2O at Your WRRFÂ	Global progress in measuring and reducing GHG emissions from wastewater treatment in recent years has highlighted the challenges and real costs of mitigating nitrous oxide emissions. Developing business cases and return on investment is challenging for water utilities. This session allows participants to gain the best knowledge, using real full scale case studies of how to mitigate N2O. It includes speakers from utilities and industry with varying levels of N2O understanding and shows how their mitigation has been designed and undertaken, including quantified cost and carbon benefits. It provides participants with understanding of N2O mitigation which will deepen with each speaker presentation and be put to test in the interactive session. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the conclusion of this activity, participants will be able to: 1. Develop an understanding of the N2O mitigation hierarchy, key mitigations which have been applied successfully at WRRFs for N2O reduction - including their cost and carbon impacts and co-benefits in the wider WRRF process 2. Understand underlying risk factors which have contributed to high N2O and real mitigations applied successfully in practice by utilities in response to these risks - and be able to translate these to their WRRF and work 3. Recognise that it is possible to develop mitigation approaches even with no or limited N2O data provided ambition and utility support is there and will take away knowledge of leading global work and contacts who they can further connect with to develop their own mitigation plans	9/30/2025	8:30 AM	10:00 AM	PDH	1.5	0.5	1	0.5	0.5
315	Don't Feed the Algae! Watershed Management for Nutrient Control	This session provides a narrative overview of the meaningful impacts that watershed management practices can have for nutrient control. Going from monitoring to impact assessment and remediation, these case studies arrange a compelling discussion of the overlooked challenges in nutrient control.	At the end of this session, participants will be able to: â€¢Analyze the pipeline from watershed management to water quality issues. â€¢Demonstrate the effectiveness of collaboration within watershed management. â€¢Compare and contrast the strategies across different regions in the United States.'	9/30/2025	8:30 AM	10:00 AM	PDH	1.5		1.5	0.5	0.5
311	From Machine Learning to Agentic AI: Exploring the Journey for Utilities and their Workforce	As artificial intelligence gains momentum in the water industry, confusion remains around what constitutes machine learning, AI, and emerging agentic systems, including how it synergizes with the workforce. This session will demystify the terminology and technologies by showcasing real-world utility experiences. With insights from an AI technology provider, an academic, and a utility champion, the session will illustrate the full arc of the digital journeyâ€"from early-stage machine learning applications to the adoption of agentic AI tools. Attendees will gain clarity, practical knowledge, and inspiration to advance AI initiatives within their organizations, including ways to address workforce challenges such as training, succession planning, knowledge retention, and future-readiness. This is a Knowledge Development Forum (KDF) session. Speaker presentations are brief and are meant to stimulate questions and an exchange of information. The conversation is kept moving by instigators who will ask tough questions.	At the end of this session, participants will be able to: 1. Define and demystify the terminology of machine learning, AI, and agentic systems. 2. Describe the types of problem scenarios that machine learning, AI, and agentic systems can be used at utilities, including specific implementation examples related to process control, workforce, etc. 3. Discuss future directions for machine learning and AI, including research and demonstration needs for operators, process engineers, and utility managers.	9/30/2025	8:30 AM	10:00 AM	PDH	1.5	1	0.5	0.5	0.5

312	Innovative Strategies for Urban Flood Mitigation in Combined and Separated Systems	Join us for an engaging session that explores innovative strategies for urban flood mitigation through case studies from Lancaster, PA, Dearborn, MI and Alexandria, VA. Participants will gain insights into the challenges posed by combined sewer systems and learn how stormwater separation projects can help control flooding while reducing combined sewer overflows. We will delve into the use of optimization software to evaluate flood control technologies and discuss the integration of cloud-based tools in designing resilient infrastructure. This session emphasizes the importance of cost-effective solutions and interdisciplinary collaboration in addressing the impacts of climate change on urban flooding.	At the end of this session, participants will be able to: 1. Assess the use of optimization software and methodologies for evaluating flood control technologies. 2. Determine strategies for identifying and implementing cost-effective flood mitigation solutions, which address both regulatory and flood reduction. 3. Recognize the value of multi-agency coordination and interdisciplinary collaboration in developing effective flood management strategies, ensuring that various stakeholder needs and environmental considerations are addressed.	9/30/2025	8:30 AM	10:00 AM	PDH	1.5		1.5		
301	Innovative THP Startup and Biosolids Finishing	Seeding and feeding THP digesters during startup include balancing multiple variables and risks. This session includes two case studies that present innovative methods to improve startup and troubleshooting of initial operations. The third case study presents a novel approach to THP biosolids finishing by taking advantage of natural biological process to generate heat and achieve drying to up to 60% solids. This is a case study analysis session. Each speaker will have 15 minutes for their presentation. Immediately after there will be 10 minutes for case study analysis in smaller groups.	At the end of this session, participants will be able to: Identify alternative THP digester seeding and feeding scenarios and recognize their advantages and disadvantages. Identify conditions leading to rapid rise in digesters and how to analyze monitoring data to predict rapid rise events. Compare windrow and aerated static pile processes to further dry and enhance THP biosolids.	9/30/2025	8:30 AM	10:00 AM	PDH	1.5		1.5		1
308	Insights Gained from Installations of PFAS Capture and Destruction Technologies	As PFAS regulations tighten for various geographies and industries, the PFAS treatment landscape is beginning to shift its focus from treatment technology development to optimization through pilot and full-scale implementation. Increasing numbers of industrial facilities are installing PFAS capture and destruction technologies, which is offering an opportunity for the industrial community to gain insights into the practical considerations associated with successfully installing and operating PFAS treatment systems. This session will explore results and learnings from three different PFAS capture and destructions systems treating wastewater from a variety of sources and industries.	At the end of this session, participants will be able to: 1.Discuss various approaches to PFAS capture and destruction. 2.Compile practical insights from pilot and full-scale installations of PFAS treatment systems. 3.Assess which considerations are critical for successfully implementing PFAS treatment systems.	9/30/2025	8:30 AM	10:00 AM	PDH	1.5		1.5	0.5	0.5
310	Microbial Selection and Performance Under Low DO Conditions	This session explores the impact of low dissolved oxygen conditions on microbial selection and performance in BNR systems. Experts will present research and case studies demonstrating how low DO environments influence the biomass community dynamics, enhancing nitrogen and phosphorus removal while reducing energy demands. This is a panel discussion. It will not have traditional presentations but instead a dynamic discussion with a set of panelists. Panelists will provide brief remarks and will focus on their discussion and interaction with the audience rather than a presentation.	At the end of this session, participants will be able to: 1. Identify microbial selection trends for low DO systems. 2. Translate how microbial selection impacts the performance of low DO systems. 3. Define the impact of low DO BNR on plant performance, energy balance and capacity.	9/30/2025	8:30 AM	10:00 AM	PDH	1.5		1.5		1
305	Microplastics In Wastewater Treatment: Insights from Recent Research	In recent years, studies have documented the occurrence of microplastics in water resource recovery facilities (WRRFs). While research on their sources, detection, and analysis is ongoing, there is also an increased interest in exploring the fate of these particles during the wastewater treatment process. This session will provide an update on current studies that focus on monitoring microplastics in influent, filtered effluent, final effluent, and biosolids. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the conclusion of this activity, participants will be able to: 1. Review updated data on microplastics occurrence in WRRFs. 2. Identify how conventional filtration technologies remove microplastics. 3. Describe the impact of solid stream treatment processes on microplastics accumulation in biosolids.	9/30/2025	8:30 AM	10:00 AM	PDH	1.5		1.5		1
309	Municipal-Industrial Synergy: Innovations in Wastewater Treatment	This session highlights the collaborative efforts between municipal and industrial sectors to innovate and improve wastewater treatment processes. This session explores cutting-edge methods and technologies in industrial wastewater treatment and reuse, featuring presentations on algae-based nitrogen removal, semiconductor impact on municipal systems, and sustainable carbon sourcing from whiskey distilleries. The session emphasizes the mutual benefits of these industrial/municipal partnerships and the innovative approaches developed to ensure sustainable and efficient water management. This is a panel discussion. It will not have traditional presentations but instead a dynamic discussion with a set of panelists. Panelists will provide brief remarks and will focus on their discussion and interaction with the audience rather than a presentation.	At the end of this session, participants will be able to: 1. Explain successful models of cooperation between municipalities and industries in addressing complex wastewater challenges 2. Identify innovative approaches to resource recovery and sustainable water management through municipal-industrial collaboration.	9/30/2025	8:30 AM	10:00 AM	PDH	1.5				0.5
306	Overcoming Challenges to Implement Advanced Aeration	Does your facility have limitations that prevent you from performing advanced aeration? This session will report on three successful approaches to overcome existing challenges at water resource recovery facilities ranging from 12 to 200 MGD. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the conclusion of this session, participants will be able to: 1. Recognize the potential limitations for performing advanced aeration at their facilities 2. Organize an approach for overcoming the limitations 3. Bring a plan back to their facility to evaluate if the approach justifies the benefits of advanced aeration controls	9/30/2025	8:30 AM	10:00 AM	PDH	1.5		1.5		1

314	Ozonation Dynamics: Exploring Micropollutant Formation and Effective Removal	This session will delve into the dynamics of ozonation in advanced wastewater treatment, providing participants with valuable insights into the formation of nitromethane in ozone-based potable reuse plants. It will explore the innovative approach of photolytic ozonation for effective micropollutant removal, highlighting its advantages in enhancing treatment efficiency. Additionally, the session will cover ozone reactor design utilizing CFD-AMOZONE technology, which optimizes performance while minimizing byproduct formation. This session will delve into the dynamics of ozonation in advanced wastewater treatment, providing participants with valuable insights into the formation of nitromethane in ozone-based potable reuse plants. It will explore the innovative approach of photolytic ozonation for effective micropollutant removal, highlighting its advantages in enhancing treatment efficiency. Additionally, the session will cover ozone reactor design utilizing CFD-AMOZONE technology, which optimizes performance while minimizing byproduct formation. This is a case study analysis session. Each speaker will have 15 minutes for their presentation. Immediately after there will be 10 minutes for case study analysis in smaller groups.	At the end of this session, participants will be able to: 1. Identify and determine fate and transport of nitromethane formation in ozone-based treatment. 2. Recognize and apply photolytic ozonation for micropollutant removal. 3. Develop and design ozone reactors based on CFD-AMOZONE technology	9/30/2025	8:30 AM	10:00 AM	PDH	1.5		1.5	0.5	0.5
302	Pass the Gas: Digester Rehab, Intensification, and Innovation	This session explores the pressing challenges in anaerobic digester operations, focusing on issues related to structural integrity and capacity limitations. It features a data-driven condition assessment of existing anaerobic digesters. The discussion then transitions to intensification alternatives of anaerobic digestion processes. Among the innovative approaches highlighted is the microbial hydrolysis process, aimed at enhancing the efficiency and performance of anaerobic digesters.	At the end of this session, participants will be able to: Recognize data-driven techniques to assess the structural condition of digesters to enhance rehabilitation decisions and infrastructure longevity. Evaluate anaerobic digestion intensification processes and technologies. Discuss the benefits and recent advancements of the microbial hydrolysis process (MHP) for future full-scale implementation.	9/30/2025	8:30 AM	10:00 AM	PDH	1.5		1.5		1
304	Preparing for Change in Sewer Construction Projects	Projects will not always proceed as planned, so it becomes wise to anticipate changes and prepare for them with contract contingencies, contract allowances, rebidding, contractor teaming for flexible methods and approaches, and initiating a project hiatus for financing or alternative delivery preparations. This session will be based around completed tunnel and drop shaft construction projects in Niagara Falls, NY. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the end of this session, participants will be able to: 1. Assess multiple solutions to Challenges, 2. Prepare multiple contingency plans in their contracts for the unknowns, and 3. Develop strong working relationships with their Contractors.	9/30/2025	8:30 AM	10:00 AM	PDH	1.5	0.5	1		0.5
300	The Transformative Impact of Artificial Intelligence on Utility Operations	The Utility Management Community is hosting a Leadership Roundtable on the transformative impact of artificial intelligence on utility operations. A panel of water sector professionals will lead the discussion, followed by breakout sessions to explore the topic in more detail.	The Utility Leaders Roundtable will provide a focus on the transformative impact of Artificial Intelligence on utility operations.	9/30/2025	8:30 AM	10:00 AM	PDH	1.5	1.5		0.5	0.5
401	A Story of Struvite Survival and a Sidestream Saga	Sidestreams cause operational and process challenges within the treatment process. The presentations in this session will describe the impact of sidestreams on issues such as nuisance struvite formation and inhibition from thermal hydrolysis. Furthermore, the presentation will describe operation and maintenance methods to reduce or remove these negative impacts. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the end of this session, participants will be able to: Discuss various case studies of utilities experiencing challenges utilities are facing with the build-up of struvite. Explain microbial inhibition from a THP to N-removing bacteria. Discuss operational process challenges of a granular anammox sidestream treatment.	9/30/2025	1:30 PM	3:00 PM	PDH	1.5		1.5		0.5
404	Advances in UV Disinfection Technologies	UV technologies continue to gain popularity for disinfection and advanced treatment. Stay up to date on the latest advancements in UV including supercritical UV, UV-AOP, and UVC-LED.	At the conclusion of this activity, participants will be able to: 1. Differentiate novel UV technology from traditional UV disinfection. 2. Identify and judge the applicability of these technologies to specific applications. 3. Recognize the impacts of these technologies to better evaluate and recommend potential use.	9/30/2025	1:30 PM	3:00 PM	PDH	1.5		1.5	0.5	0.5
412	Collaborative Case Studies: Design-Build for Effective Capital Delivery	Join us for an engaging session packed with real-world case studies on collaborative project delivery. Featuring a diverse array of projects, you'll discover the key factors that led owners to choose design-build, explore the challenges and successes encountered along the way, and gain valuable insights into how teams effectively engaged operations staff to drive better outcomes.	At the end of this session, participants will be able to: 1. Plan strategic leadership of the design-build process. 2. Assemble a broad database of information from all project stakeholders and operations staff. 3. Recognize flexibility in project delivery based on changing needs and conditions.	9/30/2025	1:30 PM	3:00 PM	PDH	1.5		1.5	0.5	0.5
405	Decarbonizing Water: N2O Modeling - From Low DO to HPO	Join this interactive forum where different approaches to model N2O will be discussed. Processes spanning the full range of dissolved oxygen will be included. This is a Knowledge Development Forum (KDF) session. Speaker presentations are brief and are meant to stimulate questions and an exchange of information. The conversation is kept moving by instigators who will ask tough questions.	At the end of this activity, participants will be able to: 1. Understand how to quantify N2O emissions. 2. Apply process models to the prediction of greenhouse gas emissions.	9/30/2025	1:30 PM	3:00 PM	PDH	1.5				

409	Exploring the Capability and Flexibility of MABRs	This session will consist of three presentations, each providing a new perspective on the capability and flexibility of the MABR process. The first presentation will provide a new approach to design intended to take advantage of the benefits MABR processes provide. The second presentation will focus the resulting benefits that MABRs can provide to WRRF owners and operators, and the limits of those benefits. The third presentation then expands the advantages of MABRs by combining the process with another innovative process, PDNA. These protocols result from case studies that incorporate both traditional, updated approaches and new concepts and innovations.	At the end of this session, participants will be able to: 1.Develop an MABR process design that considers the specific elements and advantages that MABRs provide. 2.Compare the MABR process to conventional biological processes and determine on a case-specific basis whether MABRs are advantageous. 3.Recognize that MABRs can be combined with the PDNA process and understand their interactions.	9/30/2025	1:30 PM	3:00 PM	PDH	1.5		1.5		0.5
411	Flood Modeling: Saving Cities, One Storm at a Time	In this session, we will explore three significant flood risk studies. The City of Madison's Watershed Study Program, initiated after a historic storm in 2018, aims to mitigate flooding in the East Isthmus Watershed. The Philadelphia Water Department is addressing aging infrastructure by using 1D/2D modeling to assess flood risks across its service area. And, flood risks evaluation for the Neom project in Saudi Arabia, developing flood zone maps and a severity grid to guide sustainable urban planning and emergency response.	At the end of this session, participants will be able to: 1. Understand the methodologies and tools used in flood risk assessment: 2. Evaluate the impact of aging infrastructure on urban flood risk 3. Analyze the significance of flood zones and hazard classifications in urban planning	9/30/2025	1:30 PM	3:00 PM	PDH	1.5		1.5		0.5
410	Fundamentals of Physical and Chemical Phosphorus Removal	This session includes an introduction to fundamentals of physical and chemical phosphorus removal processes. Presentations include information related to chemical phosphorus removal optimization and use of cloth media filtration for effective solids removal. Future directions and research trends in physical and chemical phosphorus removal processes will also be highlighted.	At the end of this session, participants will be able to: 1. Explain how to implement chemical phosphorus removal with flexibility at WRRFs with emphasis on optimizing operations, performance, and costs. 2. Identify strategies used at several facilities to meet low phosphorus permit limits using cloth media filtration systems. 3. Recognize current and future trends in physical and chemical phosphorus removal processes, with a focus on cutting edge research.	9/30/2025	1:30 PM	3:00 PM	PDH	1.5		1.5		0.5
415	Innovative Carbon-Based Advanced Treatment Solutions: Transforming Water Reuse	Current and emerging practices of carbon-based advanced treatment (CBAT) will be discussed in this interactive session. The session will include a presentation of pilot studies to guide through full-scale implementation, cutting edge approaches for designing utilizing machine learning, and the state of knowledge on the removal of PFAS and other emerging contaminants with CBAT systems. The interactive session will include a facilitated discussion with the presenters. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the end of this session, participants will be able to: 1. Explore machine learning uses for data driven financial planning. 2. Identify synergistic treatment processes for a CBAT train to achieve water quality goals. 3. Summarize the performance of CBAT trains with respect to CEC removal.	9/30/2025	1:30 PM	3:00 PM	PDH	1.5	0.5	1		0.5
413	Integrating Decentralized Assessments, Technologies and Management into Infrastructure	Small and decentralized wastewater systems are increasingly viewed as a part of the water infrastructure. This session presents models for assessing available options, performance of specific technology and a method for life cycle assessments of decentralized systems. This session addresses the plethora of issues associated with implementation of decentralized approaches to wastewater management. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the end of this session, participants will be able to: 1. Identification of the tasks associated with implementing decentralized systems in communities. 2. Describe laboratory based methodologies for assessing nutrient removal in watersheds and related regulatory controls 3. Review the methodology for developing a life cycle assessment of onsite and decentralized wastewater treatment technologies	9/30/2025	1:30 PM	3:00 PM	PDH	1.5		1.5	0.5	0.5
406	Know What's Coming In: Source-Tracking of PFAS	Per- and polyfluoroalkyl substances have become a rising concern mainly due to the widespread use in manufacturing, household products and operations. Given their persistent nature and the cost of treatment at WRRFs, one of the best management practices promoted by EPA is source control. This session will walk through the importance of characterization of PFAS sources and lays emphasis on implementation of source control rather than removal alternative. One case-study will showcase the importance of quantification and PFAS identification with guidance on monitoring and sampling for source identification. The session will also explore machine learning algorithms that can be used for PFAS source identification which can help save time, efforts and eventually cost. This is a conversation and input session. Presenters will have 15 minutes and then provide questions to the audience to discuss for 10 minutes.	At the conclusion of this activity, participants will be able to: 1. Participants will be able to recognize the importance of PFAS source control. 2. Participants will also explore machine learning algorithms for PFAs source identification.	9/30/2025	1:30 PM	3:00 PM	PDH	1.5		1.5	0.5	0.5
407	Leveraging Inclusive Strategies, Emerging Best Practices, Guides and Tools for our Water Industry	This session will highlight findings from two recent completed nationwide studies on DEI best practices (one focused on hiring and workforce development, and the other on equitable water management, organizational strategies, and community engagement) along with a new guidebook, implementable tools, and other resources that utility practitioners can use within their own organization. This session will also highlight the plans and steps from the Water Environment Federation to embed DEI throughout the organization, in alignment with the WEF Strategic Implementation Plan. Finally, this session will promote peer-to-peer community-building and further advancement of DEI within the water industry.	1. Learn about nationwide research results of best practices and lessons learned to implement DEI in public utilities and utility consulting firms 2. Learn how WEF is carrying-forward and implementing DEI principles and practices throughout the organization 3. Provide opportunities for session participants to share their own experiences, and gain insight for new approaches 4. Continue to build out the network of water industry professionals dedicated to the values and implementation of DEI practices	9/30/2025	1:30 PM	3:00 PM	PDH	1.5	1.5			

403	Next-Gen Sewer Operations: Digitizing Data, Resilience, and Action	Utilities face increasing pressure to modernize infrastructure, enhance operational efficiency, and improve resiliency against climate events and system failures. This session brings together three critical elementsâ€"digital transformation, real-time monitoring, and operational resiliencyâ€"to help utilities navigate these challenges effectively.	At the end of this activity, participants will be able to: 1. Describe Digital Transformations in sewer operations 2. Explore the Role of Real-Time Monitoring in Optimizing Operations 3. Enhance Resiliency & Efficiency in Next-Gen Wastewater Operations	9/30/2025	1:30 PM	3:00 PM	PDH	1.5		1.5		X
414	Smart Asset Management: Digital Tools for Efficiency and Reliability	Discover how digital tools are transforming asset management by improving efficiency, reliability, and decision-making. This session explores best practices for leveraging data analytics, risk management, and automation to optimize asset performance and lifecycle management. Learn how utilities and industries can enhance maintenance strategies, reduce costs, and maximize operational resilience with a digital-first approach.	At the end of this session, participants will be able to: 1. Understand Digital Transformation in Asset Management 2. Optimize Maintenance Strategies 3. Implement a Data-Driven Approach	9/30/2025	1:30 PM	3:00 PM	PDH	1.5	0.5	1	0.5	0.5
402	Thickening to Drying: Optimizing Solids Handling Through Innovation	This session highlights practical and innovative strategies for optimizing thickening, dewatering, and drying in biosolids management. Speakers will present on upgrading aging infrastructure, dialing in polymer performance, and integrating new technologies like self-aspirating pumps and low-temperature dryers. Through full-scale implementation stories, pilot testing outcomes, and operations-focused improvements, attendees will explore how facilities are reducing energy use, chemical consumption, and manual effortâ€"while improving solids handling efficiency across the board. The session spans the solids processing train, from thickening to drying, and offers actionable insights for utilities of all sizes. This is a conversation and input session. Presenters will have 15 minutes and then provide questions to the audience to discuss for 10 minutes.	At the end of this session, participants will be able to: Apply mechanical and process improvements that increase thickening performance using existing infrastructure. Configure polymer feed systems and dose settings to achieve consistent dewatering outcomes with reduced chemical demand. Identify operational strategies, energy use factors, and performance outcomes from a full-scale installation of a low-temperature biosolids drying system.	9/30/2025	1:30 PM	3:00 PM	PDH	1.5		1.5		0.5
408	Water Reuse Strategies at Scalable Data Center Operations	As artificial intelligence scales, the environmental impact of data centers â€“ particularly their water usage â€“ has come under increased scrutiny. In response, data centers are moving towards innovate water reuse strategies to minimize environmental impact and support sustainability goals. This session explores a practical model and real world case studies demonstrating how reclaimed water can be effectively used in data center cooling operations. Attendees will gain insights into both environmental and economic benefits, including significant reductions in both operational costs and fresh-water consumption. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the end of this session, participants will be able to: 1.Learn about the role of water in data center cooling systems and the growing concerns around water consumption as AI infrastructure scales globally. 2.Gain insights into technical models and system designs that enable effective water reclamation and reuse in data center cooling operations. 3.Analyze real-world case study data to assess how water reuse can lead to measurable reductions in operational costs and fresh water usage.	9/30/2025	1:30 PM	3:00 PM	PDH	1.5		1.5	0.5	0.5
426	Advances in Biofilm Research from WER Journal	Keep up with trends in biofilm research by attending this session featuring the authors of cutting-edge research from Water Environment Research journal. TL/DR? No problem! Come to hear directly from authors of hot papers published in WER about their recent work and where the field is going. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the end of this session, participants will be able to: 1.Summarize recent research in biofilms 2.Establish synergies and connections in biofilm approaches for process intensification 3.Propose new directions for biofilm research	9/30/2025	3:30 PM	5:00 PM	PDH	1.5	1	0.5	0.5	0.5
428	Big Solutions for Big Storms	This session explores how major U.S. cities are designing and implementing next-generation infrastructure to manage stormwater at scale. Presentations will showcase high-capacity stormwater pump stations, large underground storage tanks, and integrated systems that combine blue, green, and gray infrastructure. Drawing from complex projects in Houston, Somerville, and New Orleans, this session emphasizes solutions to protect vulnerable urban areas from flooding. This is a conversation and input session. Presenters will have 15 minutes and then provide questions to the audience to discuss for 10 minutes.	At the end of this session, participants will be able to: 1) Describe how physical modeling and computational fluid dynamics (CFD) are used to validate the hydraulic performance of large-scale stormwater pump stations. 2) Evaluate the planning, design, and siting criteria for large underground stormwater storage tanks in dense urban environments. 3) Identify strategies to integrate blue, green, and gray infrastructure into flood-prone neighborhoods to optimize resilience and co-benefits.	9/30/2025	3:30 PM	5:00 PM	PDH	1.5		1.5		

427	Challenges and Innovation in Sludge Processing	This session explores the challenges and opportunities in managing hydrothermal liquefaction (HTL) byproducts within wastewater treatment and anaerobic digestion systems. It examines the inhibitory effects of specific compounds, their impact on biological processes, and potential strategies to mitigate toxicity over time. Additionally, the session includes a presentation that compares an emerging vacuum evaporation enhanced digestion technology with thermal hydrolysis to assess effectiveness in improving digestion performance. Through experimental findings and comparative analysis, this session provides valuable insights into optimizing waste conversion and resource recovery.	At the end of this session, participants will be able to: 1. Recognize the Impact of Hydrothermal Liquefaction Byproducts â€“ Examine how HTL-derived compounds influence wastewater treatment and anaerobic digestion, including their inhibitory effects and potential for toxicity reduction over time. 2. Identify Key Inhibitory Compounds and Their Effects â€“ Identify the most toxic HTL byproducts affecting anaerobic digestion and wastewater processes and assess their degree of inhibition through experimental findings. 3. Compare Sludge Intensification Technologies for Digestion Performance â€“ Evaluate the performance differences between IntensiCarbâ„¢ technology and thermal hydrolysis in enhancing digestion efficiency.'	9/30/2025	3:30 PM	5:00 PM	PDH	1.5		1.5		0.5
417	Concept to Completion: Pump Station Improvement and Construction	This session explores strategies for designing, improving, and constructing pump stations and interceptors. Attendees will be exposed to advancements in assessing and retrofitting aging pump stations, addressing challenges in interceptors and tunnel crossings, pump station replacements, and integrating new infrastructure within existing systems. The session highlights pump station and interceptor improvement projects from multiple utilities.	At the end of this session, participants will be able to: 1. Recognize O&M improvement strategies using new technologies and innovation. 2. Analyze the benefits and challenges of implementing Design-Build delivery methods in pump station and interceptor projects. 3. Identify key factors in selecting pump technologies, including strategies for retrofitting aging infrastructure.	9/30/2025	3:30 PM	5:00 PM	PDH	1.5		1.5		0.5
419	Decarbonizing Water: Mathematical Modeling and Digital Twins to Reduce N2O Emissions from WWTP	This session will present findings which illustrate the use of digital solutions to support decisions and optimize the operation of WWTPs for N2O reduction. This session will also present advanced modeling on full-scale treatment plants for optimization of N2O reduction. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the conclusion of this activity, participants will be able toâ€¦ 1. Identify factors contributing to N2O emissions in full-scale WWTPs. 2. Optimize process configurations to reduce N2O emissions using mathematical modeling.	9/30/2025	3:30 PM	5:00 PM	PDH	1.5		1.5		0.5
424	Densified Activated Sludge Full Scale Performance and Optimization	This session covers experiences with densified activated sludge (DAS) from multi-year full-scale implementations. Four case studies will present performance results, lessons learned, modifications for process optimization, and future work. Case studies include densification in conventional activated sludge as well as MBR and MABR processes. A panel discussion will follow the four case studies. This is a panel discussion. It will not have traditional presentations but instead a dynamic discussion with a set of panelists. Panelists will provide brief remarks and will focus on their discussion and interaction with the audience rather than a presentation.	At the end of this session, participants will be able to: 1. Recognize potential benefits of densification 2. Apply case study lessons learned to other densification designs and facility operations.	9/30/2025	3:30 PM	5:00 PM	PDH	1.5		1.5		1
421	Indigenous Environmental Practices: Lessons from the Past for the Future	Indigenous communities from around the globe developed traditions that were suited to their specific environments. This session includes a panel of indigenous speakers from different countries explaining their cultural values and traditional practices and how modern utilities can embrace indigenous knowledge into their management practices. We will explore the drivers and logic behind the traditional practices, their barriers, and how they might inform contemporary solutions for a sustainable future. This is a panel discussion. It will not have traditional presentations but instead a dynamic discussion with a set of panelists. Panelists will provide brief remarks and will focus on their discussion and interaction with the audience rather than a presentation.	At the end of this session, participants will be able to: 1. Recognize that indigenous communities have developed traditional practices suited to their environments 2. Assess the underlying philosophies, drivers, and barriers of native practices in the context of the tribe and the utility perspective 3. Apply the abstracted underpinning logic from indigenous traditional practices to inform future solutions	9/30/2025	3:30 PM	4:30 PM	PDH	1.5	1.5		0.5	0.5
432	Investing in Multi-Benefit Green Stormwater Infrastructure for Scale and Impact	Rain gardens, bioretention, and other green stormwater infrastructure integrated into climate resilient landscapes manages rain where it falls and improves water quality. These strategies can supplement more centralized approaches and provide multiple benefits--green jobs, reduced water demand, increased wildfire resilience, enhanced biodiversity, improved local air quality, and reduced heat stress. Urban stormwater managers can maximize these co-benefits by investing at scale and opening the door to co-funders and other partners. This session highlights how to value multiple benefits of climate resilient landscapes in Los Angeles County and how to leverage these values into co-funding. It also explores equitable, affordable financing.	At the conclusion of this activity, participants will be able to: 1. Gain new understanding of the range and value of benefits associated with distributed green stormwater infrastructure, and their appeal to multiple stakeholders. 2. Expand understanding about the types of water infrastructure that can be capitalized and debt-financed. 3. Equip participants with resources to scale their communities' investments in GSI as a climate-resilient water management strategy.	9/30/2025	3:30 PM	5:00 PM	PDH	1.5	1.5			

429	Mature Stormwater Programs: Assessment and Enhancement Opportunities	Stormwater utilities are facing increasing pressures and expectations from a variety of perspectives such as evolving regulatory, financial and revenue challenges and political and customer viewpoints. To help meet these challenges, stormwater programs need to evolve to ensure they are delivering fiscally responsible and effective stormwater management services. This session will discuss and present various opportunities for stormwater utilities to assess key aspects of their stormwater program to identify opportunities for enhancement and meet the challenges of today and the future.	At the conclusion of this activity, participants will be able to: 1. Review their stormwater fee, rate and credit programs to identify potential opportunities for enhancements to their stormwater program rate and credit program structures to meet increasing program needs. 2. Broaden their understanding of stormwater program capital delivery and asset management program best practices 3. Recognize potential opportunities for review of stormwater billing data, billing systems and/or policies and procedures could lead to increased quality of billing data and optimization of billing related workflows.	9/30/2025	3:30 PM	5:00 PM	PDH	1.5	1.5			
418	Navigating the Storm: Disinfecting Wet Weather Events	This session examines the impacts of wet weather events on disinfection processes at WRRFs and in combined sewer systems. We will explore technologies used to mitigate challenges of high suspended solids and pathogen concentrations that occur during storm conditions. We'll present case studies highlighting effective approaches to managing water quality and compliance. Join us to discover strategies for maintaining water quality during wet weather events. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the conclusion of this activity, participants will be able to: 1. Identify and define impacts of wet weather events on WRRFs. 2. Demonstrate and examine case studies on tested solutions for wet weather events. 3. Evaluate and describe how wet weather treatment options impact our water quality.	9/30/2025	3:30 PM	5:00 PM	PDH	1.5		1.5	0.5	0.5
430	One Water in the Spotlight! Getting Creative with Community Engagement	This session spans three campaigns that put water front and center in communities across the country through creative engagement efforts focused on water, wastewater, and stormwater. One utility promoted the value of water through an integrated engagement strategy combining digital, grassroots, and partnerships. A familiar storm drain program used environmental psychology principles to support growth and evolution, while another utility crafted strong visuals to simplify the wastewater collection system for multiple audiences.	At the end of this session, participants will be able to: 1.Recognize the value of research in planning and implementing community engagement 2.Describe the benefits of partnerships to amplify programs and awareness campaigns 3.Explain how to incorporate environmental psychology principles to promote behavioral change	9/30/2025	3:30 PM	5:00 PM	PDH	1.5	1.5			0.5
422	Passing the Test: Improving Whole Effluent Toxicity Compliance from Industrial Wastewater Treatment	Whole Effluent Toxicity (WET) testing is a critical process for evaluating the potential toxic effects of wastewater discharges on aquatic organisms in surface waters. but can be challenging to pass for industrial dischargers due to utilization of complex chemical mixtures, high salinity, and presence of biogenic compounds and the regulatory context in which they operate. Using common analytical tools and site-specific desktop tools, Molson Coors was able to improve their WET compliance. This session will review the challenges of passing WET testing, how to identify toxicants present in effluent and process waste streams and best practices for identifying and eliminating potential toxicants from their facilities.	This session will benefit utilities, consultants, chemicals suppliers and policy makers seeking to improve WET compliance through understanding of: â€¢ The complexities of passing WET testing. â€¢ How to identify what toxicants are in effluent and process waste streams. â€¢ Best practices, from tools to investigative approaches, to eliminate potential toxicants from their facilities.	9/30/2025	3:30 PM	5:00 PM	PDH	1.5		1.5		0.5
423	PFAS Removal Technologies for Leachate and Complex Wastewaters	Come explore the application of several novel technologies for removal and destruction of PFAS from landfill leachate and other complex waste streams. The performance of foam fractionation for three different leachate matrices will be compared, and the novel use of modified coal fly ash for PFAS adsorption will be explored. The application of foam fractionation combined with three destructive technologies, electrochemical oxidation, supercritical water oxidation, and thermal plasma, will also be described. This is a case study analysis session. Each speaker will have 15 minutes for their presentation. Immediately after there will be 10 minutes for case study analysis in smaller groups.	At the end of this session, participants will be able to: 1.Describe the expected performance of foam fractionation for various leachate matrices, including pretreated leachate. 2.Compare research innovations in removal and destruction of long-chain and short-chain PFAS from concentrated waste streams. 3.Identify appropriate applications and technology readiness for novel PFAS removal and destruction technologies.	9/30/2025	3:30 PM	5:00 PM	PDH	1.5		1.5		0.5
425	Resiliency and Effectiveness of Wet Weather Flow Management and Treatment	WRRFs are adapting their treatment operations for wet weather flow management using various non biological advanced technologies. This session presents a comprehensive overview of evaluating various wet weather treatment technologies for peak flow management and treatment. Full-scale performance and CFD modeling highlight the treatment efficiency of various technologies including pile cloth media filter, and ballasted sedimentation.	At the end of this session, participants will be able to: 1. Evaluating pile cloth filters and other enhanced high rate treatment technologies as 'non-biological secondary treatment' process to treat wet weather flow. 2. Implementation of ballasted sedimentation process for remote wet weather flow treatment from combined sewer overflow (CSO) system. 3. Utilization of Computational Fluid Dynamics (CFD) modeling to understand influent wastewater channel mixing for hydraulic capacity improvement	9/30/2025	3:30 PM	5:00 PM	PDH	1.5		1.5		0.5

416	RNG-Codigestion, Carbon Capture, and Fugitive Methane	Renewable natural gas (RNG) remains an attractive value-added alternative to biogas at WRRFs. This session explores new approaches to leverage opportunities to further improve the economic performance of RNG facilities while mitigating carbon emissions. These opportunities include the first non-prescriptive D3/D5 administrative split, carbon capture from RNG tail gas, and reduction in fugitive methane to increase revenue from RNG. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the end of this session, participants will be able to: 1. Describe the RFS framework, the role of RINS in RNG valuation, and how regulatory updates enhance the D3/D5 split for an improved economic performance of TNG facilities 2. Recognize biogenic CO2 sequestration opportunities and market potential from RNG at WRRFs. 3. Assess methane leak detection and mitigation methods, and explore biogas capture strategies to enhance revenue from renewable natural gas (RNG).	9/30/2025	3:30 PM	5:00 PM	PDH	1.5		1.5		0.5
420	Squeezing the Tube to the End: Maximizing Capacity	Presentations and discussion of process tools applied to capacity analysis. Case studies include dynamic modeling and clarifier capacity analysis.	At the end of this activity, participants will be able to: 1. Understand how to apply process modeling to capacity evaluation. 2. Assess clarifier capacity.	9/30/2025	3:30 PM	5:00 PM	PDH	1.5		1.5		0.5
431	Water Reuse: Today's Landscape and Tomorrow's Path	In partnership with the Water Reuse Association and the Water Research Foundation, this session will offer diverse perspectives from across the water reuse community. We will explore key topics such as regulations, advocacy, program funding, and the current landscape of water reuse regulations throughout the United States. This is a panel discussion. It will not have traditional presentations but instead a dynamic discussion with a set of panelists. Panelists will provide brief remarks and will focus on their discussion and interaction with the audience rather than a presentation.	At the end of this session, participants will be able to: 1. Understand the regulatory framework surrounding water reuse across the United States, including current trends and challenges. 2. Explore advocacy strategies that drive policy changes and support the growth of water reuse programs at local, state, and national levels. 3. Identify funding opportunities and programs that support water reuse initiatives and understand the financial mechanisms necessary for program implementation and sustainability.	9/30/2025	3:30 PM	5:00 PM	PDH	1.5	1.5		0.5	0.5
508	Benzene Waste Operations NESHAP: Compliance Strategies for Refining & Petrochemical Facilities	This session provides an overview of the Benzene Waste Operations NESHAP (BWON) rule and strategies for compliance at refining & petrochemical facilities. Presentations will cover the current regulatory environment surrounding BWON and the enforcement actions by the US Environmental Protection Agency, methodologies to properly tabulate benzene emissions in industrial facilities, and strategies to minimize benzene emissions from wastewater treatment plants.	Session attendees will develop an understanding of the current regulatory environment surrounding the BWON rule, including the EPA's pattern of enforcement and legal precedents that exist. This will provide attendees with knowledge of potential areas of non-compliance within their own facilities and how to manage the relationship with regulators. Attendees will also recognize the importance of accurately tracking benzene emissions at industrial facilities and will build strategies for conducting benzene mass balances around controlled and uncontrolled emissions. This allows for the development of the proper documentation to demonstrate compliance. Lastly, attendees will be able to identify common sources of benzene emissions and propose actionable measures to address emissions and improve compliance with BWON. With this knowledge, attendees will be equipped to correct areas of non-compliance within their own facilities.	10/1/2025	8:30 AM	10:00 AM	PDH	1.5	0.5	1		0.5
510	BNR But Better: Additional Improvements on BNR Systems	Don't assume BNR upgrades are the final step! This session explores the reality that evolving influent conditions and effluent limits often necessitate additional process improvements in upgraded BNR facilities. Through three compelling case studies, learn how operating facilities successfully adapted their systems and operations to address upcoming flow changes and stricter permit requirements.	At the end of this session, participants will be able to: 1. Recognize opportunities for and identify methods of further improvement for biological nutrient removal systems. 2. Give examples where process or operational adjustments led to nutrient removal improvement or expanded capacity. 3. Address upcoming nutrient limits using existing infrastructure by identifying upgrade and process improvements.	10/1/2025	8:30 AM	10:00 AM	PDH	1.5		1.5		0.5

506	Building Resilience and Planning for Climate Change	With climate-related hazards continuing to impact our water infrastructure, planning for and building resilience into projects just makes sense. This session will highlight two case studies where consideration of climate hazards was incorporated into planning â€“ including modeling to analyze and visualize risks as well as innovative ways to integrate adaptations. A climate resilience plan at the AlexRenew WWRF presents methods to assess the risk of climate hazards on operations and personnel at the facility. The New York City Economic Corporation pursues the design and engineering of a Master Plan to meet flood mitigation and sustainability goals.Â	At the end of this session, participants will be able to: 1. Evaluate risk assessment strategies such as system inspection, data analysis, and modeling.Â 2. Highlight the impacts of more frequent and more severe storms and plans for flood mitigation. 3. Discuss the implementation of resilience efforts and the importance of planning for climate events.	10/1/2025	8:30 AM	9:30 AM	PDH	1.5	0.5	1	0.5	0.5
514	Community-based Utility Management: Engagement, Investment, Stewardship	The nation has underinvested in water infrastructure for too long. Since 2021, the Bipartisan Infrastructure Law has put the spotlight on much-needed infrastructure investment to address decades of funding gaps that have negatively impacted the quality of life of our communities. In this session, we will approach Utility Management from the lens of community engagement, investment, and stewardship. First, we will set the stage with a utility that activated its employees on every level to incorporate the viewpoints, concerns, and priorities of the communities they served into their daily operations. Then, we will feature a utility that formed a formal partnership with multiple community-based organizations and local businesses to develop a culture of participation in recruitment, procurement, service delivery, and a data-driven community engagement plan. We will conclude by recognizing the mutual benefit to the utility and community derived from technical assistance support and financial investment based on community input and engagement.	At the end of this session, participants will be able to: 1.Demonstrate ways to activate employees at every level beyond commitment and discussion of community stewardship into meaningful action and engagement. 2.Assemble local stakeholder partnerships to advance a data-driven community engagement plan. 3.Determine ways to leverage alternative funding sources for mutual utility and community benefit.	10/1/2025	8:30 AM	10:00 AM	PDH	1.5	1.5		0.5	0.5
501	Decarbonizing Water: Across Space and Time - Techniques for CH4 and N2O Monitoring	Explore real-world case studies of methane (CHâ„) and nitrous oxide (Nâ„O) measurement at water resource recovery facilities. This interactive session covers off-gas testing for aeration efficiency and Nâ„O emissions, multi-level sensing for fugitive methane, and advanced optical, satellite, and reverse modeling techniques. Take a virtual journey to three facilities using cutting-edge methods to track emissions and improve quantification. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the end of this session, participants will be able to: 1. Differentiate different techniques for measuring methane (CHâ„) and nitrous oxide (Nâ„O), understanding their strengths and limitations. 2. Identify the most effective locations and durations for accurate emissions monitoring. 3.Recognize how measurement insights can enhance emissions quantification and drive smarter, more effective greenhouse gas management.	10/1/2025	8:30 AM	10:00 AM	PDH	1.5		1.5		1
511	Densified Activated Sludge: Practical Design and Modeling Experiences Converge	This session focuses on practical aspects of design and modeling for densified activated sludge systems. Topics include biological selection principles, biological selector design metrics, hydrocyclone design, and modeling approaches. Modeling approaches within conventional activated sludge model frameworks and newly-available densified activated sludge model frameworks will be discussed.	At the end of this session, participants will be able to: 1) Describe appropriate biological selection design for densified activated sludge 2) Explain activated sludge process modifications for densified activated sludge 3) Assess densified activated sludge modeling approaches and sensitivity to key parameters	10/1/2025	8:30 AM	10:00 AM	PDH	1.5		1.5		1
509	From PFAS to Models: Water Treatment and Optimization Strategies in Semiconductor Manufacturing	Growing demand for electronics has led to tremendous growth in the semiconductor industry. This session presents case studies on water optimization and PFAS destruction in the semiconductor manufacturing industry. This session highlights the growing need of innovation in water treatment and use in chips manufacturing. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the end of this session, participants will be able to: 1.Apply techniques to optimize water treatment in chips manufacturing. 2.Determine the applicability of a particular PFAS destruction technology for PFAS treatment in chips manufacturing.	10/1/2025	8:30 AM	10:00 AM	PDH	1.5		1.5	0.5	0.5
513	GSI Performance Tools: Optimizing GSI Placement and Performance	The world is adopting green stormwater infrastructure (GSI) as a nature-based approach to reduce pollutant from stormwater runoff, improve water quality, and meet water quality standards. These presentations will present three different tools (GIS Impact Hub, Flood Risk Tool and ArcGIS online prioritization tool) that help municipalities, and the public evaluate the effectiveness and compare benefits of GSI implementation; explore climate change that might impact GSI systems' performance; and show optimization of GSI investments. These presentations incorporate regional resilience plans, climate resilience analysis, hydraulic analysis of GSI alternatives, and estimating co-benefits including climate resiliency, flood relief, cooling effects; and return on investment.	At the end of this session, participants will be able to: 1. Establish further your understanding of benefits from GSI 2. Recognize the varying degrees that the different factors impact the GSI Prioritization 3. Identify the differences between the three GSI tools to assess the effectiveness and benefits of GSI implementation	10/1/2025	8:30 AM	10:00 AM	PDH	1.5	0.5	1		

507	Infrastructure Investments and Strategies of Corporate Responsibility	This session explores how infrastructure investments can be powerful tools for advancing inclusive practices through intentional consideration of corporate responsibilities. Using real-world case studiesâ€"from Kerr County's award-winning wastewater project to King County's innovative Capital Programâ€"presenters will highlight how collaborative planning, community engagement, and data-driven decision-making can lead to sustainable, equitable outcomes. Attendees will gain insights into innovative funding models, hands-on planning processes, and frameworks that embed equity into infrastructure design and delivery. This is a case study analysis session. Each speaker will have 15 minutes for their presentation. Immediately after there will be 10 minutes for case study analysis in smaller groups.	At the end of this session, participants will be able to: 1.Define how integrating inclusive principles into corporate strategies can lead to more balanced and resilient infrastructure investments. 2.Evaluate real-world case studies demonstrating innovative community engagement, needs-based funding, and pro-equity contracting practices in infrastructure projects. 3.Apply practical tools and frameworksâ€"including a customizable corporate responsibility web toolâ€"to assess and inclusive results in capital planning and implementation.	9/30/2025	8:30 AM	10:00 AM	PDH	1.5	1.5		0.5	0.5
502	Innovations in Finding I/I	Infiltration and Inflow (I/I) of clear water into sanitary systems drives hundreds of millions of dollars into upsizing pipes, storage, and treatment facilities. Removal of I/I is seen as an undefinable quantity in planning and costing. There are many tried-and (sometimes)-true I/I investigations (smoke testing, manhole inspections, CCTV, dye flooding, etc.) that only sometimes provide confidence in I/I removal as a solution to capacity issues. There is a tremendous need for innovative and effective technologies and approaches to find I/I. This 90-minute technical session will feature the latest innovations for locating I/I.	This session aims to: â€¢Introduce participants to several novel approaches to finding I/I â€¢Allow participants to judge the strengths and limitations of each method â€¢Allow participants to consider if any of these ideas could be applied in their own systems â€¢Suggest some foundational principles for finding and fixing I/I, such as keeping your goals in mind and constantly evaluating cost-effectiveness vs. gray infrastructure	10/1/2025	8:30 AM	10:00 AM	PDH	1.5				
512	Innovative Approaches to Micropollutant Removal in Wastewater	This session explores cutting-edge strategies for removing emerging contaminants such as PFAS, EE2, and microplastics in wastewater treatment. Presenters will discuss the use of reactive migrating carriers, biochar, and other adsorptive media for process intensification and contaminant mitigation. Key findings on adsorption efficiency, biodegradation potential, and process optimization will be highlighted. Attendees will gain insights into sustainable and scalable approaches for addressing regulatory and environmental challenges. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the conclusion of this session, participants will be able to: 1.Understand the role of reactive migrating carriers and biochar in enhancing wastewater treatment and micropollutant removal. 2.Compare different adsorptive materials and their effectiveness in capturing PFAS, EE2, and microplastics. 3.Examine process intensification strategies to increase treatment efficiency and sustainability in water reclamation facilities.	10/1/2025	8:30 AM	10:00 AM	PDH	1.5				
503	Optimizing Disinfection Systems for Efficiency and Reliability	Real-time information and advanced models have created new opportunities to optimize disinfection systems with less risk than ever before. Come learn about the latest ideas and techniques for improving reliability, reducing chemical usage, and saving money!	At the conclusion of this activity, participants will be able to: 1. Recognize opportunities for optimization in disinfection systems. 2. Identify options and techniques to optimize disinfection systems. 3. Describe best practices associated with the use of models and sensors to optimize disinfection.	10/1/2025	8:30 AM	10:00 AM	PDH	1.5		1.5	0.5	0.5
515	Optimizing Wastewater Utility Operations: Leveraging GIS Technology	Hear from three utilities as they share how GIS has helped them tackle common challenges faced by utilities across the nation. Participate in an engaging panel discussion with these industry leaders.	At the conclusion of this activity, participants will be able to: 1. Identify web GIS and mobile applications that enable data collection, collaboration, and analysis. 2. Better understand how CMMS in conjunction with GIS can support operations workflows related to inflow and infiltration. 3. Gain knowledge about system integrations that support vertical asset management.	10/1/2025	8:30 AM	10:00 AM	PDH	1.5				
504	PdNA: Insights into Pilot and Full-scale Implementations	Historically, PdNA has been studied at lab scale level with research focused on PdNA mechanism and parameters influencing PdNA. To advance PdNA implementation, it is important to better understand PdNA startup and operational strategies for stable performance. This session will delve into the challenges of PdNA implementation with fixed film technologies and the practical solutions employed to overcome them in two pilot studies and at a full-scale facility. Additionally, the session will offer insights into strategies for improving PdNA efficiency. The findings from these studies will be instrumental in guiding the design and successful, stable operation of full-scale PdNA systems.	At the conclusion of this activity, participants will be able to: 1. Identify effective strategies for the successful initiation and optimization of PdNA processes in fixed film systems. 2. Recognize the advantages of incorporating suspended biomass into a PdNA system, as evidenced by the transition from MBBR to IFAS. 3. Gain insights into the critical parameters for the full-scale design and operation of PdNA systems, and understand the benefits of PdNA in achieving stringent nitrogen removal targets.	10/1/2025	8:30 AM	10:00 AM	PDH	1.5				

516	Shaping the Future of Water Reuse: Drivers, Feasibility & Challenges	Effective water reuse planning is essential for sustainable resource management. This session will explore key drivers influencing water reuse initiatives, focusing on the feasibility of Direct Potable Reuse (DPR) and the role of discharge avoidance in the western United States. Participants will learn about technical, regulatory, and community acceptance factors that shape DPR implementation and examine case studies that include considerations for a successful reuse program.	At the end of this session, participants will be able to: 1. Recognize factors driving water reuse. 2. Identify implementation challenges of DPR. 3. Employ strategies to determine DPR feasibility.	10/1/2025	8:30 AM	10:00 AM	PDH	1.5				
517	Tackling PFAS: From Discharges to Watershed Mitigation Strategies	This session will explore various strategies to mitigate PFAS contamination in watersheds, addressing impacts from the source to users across rivers, groundwater, and stormwater. Presentations will cover a range of approaches, including mitigation techniques for drinking water sources, groundwater remediation methods, and strategies to manage stormwater effectively.	At the end of this session, participants will be able to: 1.Compare multiple PFAS mitigation strategies at water treatment facilities. 2.Evaluate groundwater PFAS mitigation strategies. 3.Assess stormwater PFAS mitigation strategies.	10/1/2025	8:30 AM	10:00 AM	PDH	1.5		1.5	0.5	0.5
505	Turning the Tide on the Silver Tsunami	There is widespread concern in the industry related to the so-called silver tsunami, or the fact that experienced operations and maintenance staff are, or soon will be, retiring faster than the rate at which they can be replaced. This session offers some innovative strategies for meeting this challenge head-on.	At the end of this activity, participants will be able to: 1. Strategies for dealing with the so-called silver tsunami. 2. How to implement succession planning. 3. Using KPIs to track weather innovative approaches are the solutions they promised to be.	10/1/2025	8:30 AM	10:00 AM	PDH	1.5	1.5			
525	Beyond BNR: Pushing the Envelope of Intensification Technologies	This session consists of three presentations on the latest efforts in pushing the boundaries of intensification technologies. The first presentation is a full-scale demonstration of MOB to improve reliability of nutrient removal in cold weather. The second presentation is the use of inDENSE hydrocyclones for improving high-rate contact stabilization system performance. The third presentation is the applicaton of aerobic granular sludge in saline conditions (as high as 5,000 mg/L Cl).	At the end of this session, participants will be able to: 1. Describe new boundaries for applying intensification technologies, and possible applications at their facilities. 2. Compare the different intensification technologies with respect to performance, stabilities, and operations. 3. identify potential design and operational considerations.	10/1/2025	10:30 AM	12:00 PM	PDH	1.5				
520	Collaborative Strategies for Private I/I Reduction	This Knowledge Development Forum will demonstrate three effective approaches to reducing private inflow and infiltration (I/I), showcasing how targeted small-scale projects can yield significant, utility-wide benefits. Attendees will explore data-driven methods for identifying I/I sources, funding strategies to support private property programs, and best practices for engaging the public in collaborative solutions. Real-world case studies will demonstrate how these focused efforts translate into substantial reductions in overall system load and improved public infrastructure performance. The session will then breakout into case study evaluations for audience teams to brainstorm potential approaches and identify obstacles to implementation.	At the conclusion of this activity, participants will be able to: 1. Identify and prioritize small-scale I/I removal projects within private systems that yield significant public utility benefits, utilizing data-driven analysis techniques. 2. Develop and implement effective public engagement strategies to support I/I reduction initiatives, fostering collaboration and securing community buy-in. 3. Evaluate funding mechanisms for private I/I removal projects, maximizing resource allocation to achieve measurable improvements in overall system performance.	10/1/2025	10:30 AM	12:00 PM	PDH	1.5				
526	Full-Scale Primary Sludge Fermentation	This session explores the design and performance of full-scale primary sludge fermentation in several case studies. Primary sludge fermenters can provide an 'internal' source of carbon for nutrient removal facilities however they may also introduce nutrient loadings back to the mainstream. As facilities are required to meet lower effluent nutrient limits, it is therefore critical to account for internal nutrient recycles in addition to internal carbon recycles. In the second case study, participants will evaluate fermentation tests in full-scale gravity thickeners to assess fermentate quality and nutrient release under dynamic conditions to optimize nitrogen and phosphorus removal processes in the liquid train. The final case study will present key findings and lessons learned from a full-scale primary fermentation process. This is a case study analysis session. Each speaker will have 15 minutes for their presentation. Immediately after there will be 10 minutes for case study analysis in smaller groups.	At the end of this session, participants will be able to: 1. Evaluate the value proposition of primary sludge fermenters, tradeoffs of primary sludge fermenter configurations, and recommendations for monitoring strategies. 2. Quantify primary sludge fermentation yields, nutrient release, and odour production in full-scale gravity thickening and optimize fermentate quality to reduce external carbon requirements. 3. Examine the design and performance of a full-scale primary sludge fermentation process.	10/1/2025	10:30 AM	12:00 PM	PDH	1.5				
534	Innovations in Membrane Treatment for Reuse	Membrane treatment is an established feature of many municipal wastewater reuse systems but expanding its use for indirect and direct potable reuse applications is driving the need for innovation. This session presents new research that will take participants from filter feed pretreatment, to managing the membrane waste streams, and ending with reverse osmosis product water LRV compliance. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the end of this session, participants will be able to: 1. Design and operate pretreatment using electrocoagulation to manage membrane fouling for ultrafiltration as part of a reuse system. 2. Identify how to cost-effectively remove nitrogen from reverse osmosis concentrate using partial denitrification to achieve nutrient discharge goals. 3. Recognize that RO performance monitoring data is not normally distributed and identify the use of real-time monitoring and a novel statistical method for demonstrating LRV credits for DPR compliance.	10/1/2025	10:30 AM	12:00 PM	PDH	1.5				

528	Innovative Green Infrastructure Solutions in Diverse Urban Settings	Controlling urban runoff includes numerous potential obstacles depending upon site specific issues. These presentations include three different approaches for addressing urban runoff by applying different green infrastructure solutions. Each example also includes discussion of ancillary benefits of the green infrastructure for the community at large.	At the end of this session, participants will be able to: 1. Demonstrate how green infrastructure provides unique, educational, and engaging experience for both the public and the professional community at large. 2. Analyze how green infrastructure can be used to achieve significant pollutant reduction, contribute to overall stormwater management, and provide community enhancements. 3. Recognize how green infrastructure provides benefits related to reduce flood risks and enhance climate resilience while promoting community engagement and environmental sustainability.	10/1/2025	10:30 AM	12:00 PM	PDH	1.5				
518	Lessons from Biosolids Project Startups	Startup embodies the confluence of operations, construction, and engineering where methodical planning meets quick problem solving. This session includes lessons learned from startup of three distinct Class A biosolids treatment processes with ranging levels of technology maturity for installations throughout North America. The startup projects include temperature phased anaerobic digestion, thermal hydrolysis, and gasification projects. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the end of this session, participants will be able to: 1. Recognize relevant planning methodology prior to startup activities. 2. Identify potential challenges and specific solutions during startup 3. Demonstrate approaches for troubleshooting operations upon startup.	10/1/2025	10:30 AM	12:00 PM	PDH	1.5				
523	Oil and Gas Water Treatment Solutions: Beneficial Reuse and Advanced Separation Technologies	The session will cover new water treatment and reuse technologies for the oil and gas industry. Topics of discussion will include desalination and ammonia removal for sustainable disposal alternatives of produced water. The results of a pilot suspended air flotation (SAF) unit will be presented, emphasizing the effectiveness of SAF technology for total suspended solids removal. This session aims to provide an overview of recent advancements in water treatment technologies and their applications in the oil and gas sector. Attendees will gain insights from industry experts on solutions for sustainable water management.	At the end of this session, participants will be able to: 1.Recognize water treatment challenges faced by the Oil and Gas Industry 2.Give example of technologies being proposed to beneficially reuse produced water 3.Summarize how suspended air floatation (SAF) can be leveraged to remove total suspended solids in a refinery setting.	10/1/2025	10:30 AM	12:00 PM	PDH	1.5		1.5		0.5
530	Operational Optimization through Digital Transformation Enablement and Adoption	Have you heard the terms - Digital Water, Digital Twins, Digital Transformation, Information Revolution and other buzz words? If so, this session is for you. This facilitated discussion will take you through three organizational journeys to optimize their operations through technology enablement. Topics discussed include data and information retrieval, digital transformation roadmap, as well as enabling decision making through performance reporting This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the end of this session, participants will be able to: 1. Identify use cases on adoption. 2. Demonstrate implementation of information technology to enable business outcomes. 3. Recall lessons learned, challenges, and success factors.	10/1/2025	10:30 AM	12:00 PM	PDH	1.5				
522	Pathways for Decarbonization and Circular Water Economy	This session will delve into decarbonization and the Circular Water Economy by exploring the water industry's critical role to keep resources in use, design out waste, regenerate natural systems and transition towards a fully renewable energy system. The session will begin with an introduction to the concept of a Circular Water Economy and the technical and the economic and environmental benefits of adapting this framework. The second and third speakers will present case studies from a utility and decentralized urban systems perspective, providing specific examples of feasible and cost-effective mitigation strategies and approaches to reduce energy and water consumption while regenerating resources with costs in mind.	At the end of this session, participants will be able to: 1. Define the opportunities and challenges of transitioning to a Circular Water Economy and the need to adopt this framework to address the future water challenges. 2. Understand the role of decarbonization and the reduction of GHG emissions at the utility level, considering cost and impact. 3. Identify opportunities to apply life cycle analysis within centralized and decentralized settings to maximize the value of integrated resource recovery by implementing circular water principles.	10/1/2025	10:30 AM	12:00 PM	PDH	1.5	1	0.5		0.5

524	Pharmaceuticals, AMR, and Wastewater Treatment: Risks and Solutions	Pharmaceuticals in the Environment (PiE) continue to pose significant risks to both the environment and to human health including the acceleration of antimicrobial resistance (AMR) which is projected to become the #1 cause of human deaths by 2050. This session will focus on the treatment, management, and risks of pharmaceuticals and AMR across industrial and municipal wastewater treatment systems and their receiving environments. The first paper is a case study reviewing the process design upgrades, overcoming commissioning & start up challenges, and the operational performance of the Grifols Therapeutics North Carolina on-site pharmaceutical WWTP complying with stringent Industrial User Pretreatment Permit (IUP) limits for discharging treatment biopharmaceutical wastewater effluent to the local municipal wastewater treatment system. The next paper is a case study reviewing the removal of 17 pharmaceuticals, personal care products or pesticides, and 23 high risk substances or their metabolites at a 120-MGD water reclamation facility in Nevada across various full scale and pilot wastewater treatment & potable reuse processes. The final paper will provide an overview of the mechanisms underlying antibiotic resistance and conduct a thorough analysis of existing guidelines, incorporating hypothetical scenarios of antibiotic release from various sources, including residential, healthcare, manufacturing, waste management, and animal health non-point sources.	At the end of this session, participants will be able to: 1. Recognize potential sources, issues and risks of pharmaceuticals and AMR across industrial and municipal wastewater treatment systems. 2. Compare different treatment technologies and their potential removal of pharmaceutical compounds, antibiotic-resistant bacteria (ARB) and antibiotic-resistant genes (ARGs). 3. Relate the impacts of pharmaceuticals and AMR on the water sector and human health.	10/1/2025	10:30 AM	12:00 PM	PDH	1.5		1.5		0.5
531	Regulations, Communications and Costs of PFAS for Utility Leaders	The uncertainty around PFAS regulations and the potential costs of compliance have been a concern for Utility Leaders for the past several years. The regulations haven't been settled between Federal, State, and Local requirements, but the picture is becoming increasingly clear. This session offers a regulatory update along with a utility's case study to proactively communicate and build local support for upcoming PFAS challenges. Finally, the potential capital and operating costs of compliance will be explored for a range of situations.	At the conclusion of this activity, participants will be able to: 1. Examples of states developing regulatory frameworks for PFAS response despite uncertainty at the state and national levels. 2. A case study from Salem, Oregon, on how the city is responding to PFAS in water by developing a comprehensive response roadmap. 3. How comprehensive cost estimates that include capital and operating expenditures (CAPEX and OPEX) can help utilities prepare more accurate estimates for PFAS treatment.	10/1/2025	10:30 AM	12:00 PM	PDH	1.5				
529	Stormwater Strategies; Building, Implementing and Improving Regulations	February 2022 marked a new era of stormwater management in New York City, as DEP established the Unified Stormwater Rules (USWR) to meet increasingly stringent state water quality requirements, align water quantity requirements between sites draining to combined sewer systems (CSS) or MS4, and provide comprehensive and standardized guidance for the design of stormwater management practices (SMPs) via an updated New York City Stormwater Manual (NYC SWM). This session will provide a comprehensive overview of both the process of developing improved stormwater management programs, as well as the approach to streamlining the implementation of these programs.	At the conclusion of this activity, participants will be able to: 1. Understand the basic tenets of stormwater management and recognize the importance of stormwater management programs. 2. Explore strategies to develop effective, large-scale regulatory changes to stormwater management programs that meet multiple environmental goals. 3. Identify implementation challenges and avenues for process improvements to streamline the implementation of complex regulations.	10/1/2025	10:30 AM	12:00 PM	PDH	1.5	0.5	1		
519	Thermal Treatment of PFAS in Biosolids	With increasing and varied regulatory pressures, PFAS remains a challenge in wastewater treatment and biosolids disposal. This session aims to bring the latest developments in PFAS treatment and transformation through thermal treatment systems, including thermal drying, pyrolysis, gasification, and supercritical water oxidation (SCWO). These technologies are assessed using life cycle analysis and case studies on full-scale facilities. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the end of this session, participants will be able to: 1. Compare the status of thermal treatment technologies for PFAS in biosolids 2. Examine the performance of listed technologies on full-scale systems 3. Summarize the installation and life cycle cost associated with PFAS treatment for biosolids	10/1/2025	10:30 AM	12:00 PM	PDH	1.5		1.5		1
521	Tools for Addressing Emerging Contaminants in Wastewater Infrastructure Projects	Utilities have the concern of removing the emerging contaminants and the costs involved. EPA has a web based tool that estimates the baseline EC removal and the treatment performance, cost, and environmental impact of additional processes to increase EC removal. This will assist utilities investigating a holistic approach to EC removal. The outcomes from the tool may be used in application for clean water state funding. Two case studies are included to exemplify how states and utilities are leveraging the EPA and state funding to address ECs in their communities and support our nationwide understanding of treatment options.	At the conclusion of this activity, participants will be able to: 1. Utilize the EC Framework to identify potential wastewater treatment trains for their own utilities based on emerging contaminant(s) of interest, treatment performance, cost, and environmental impact. 2. Utilize publicly-available EC data from the EPA for wastewater infrastructure project development. 3. Describe the basic requirements of CWSRF EC funding eligibility and identify potential applications of CWSRF EC funds within their own utility. 4. Understand the technology landscape for PFAS treatment in municipal wastewater, biosolids, and landfill discharges.	10/1/2025	10:30 AM	12:00 PM	PDH	1.5				

229	Unlocking Impact through Open Innovation: Past, Present, and Future	This interactive, facilitated panel will explore the evolution of open innovation in the water sector, starting with pioneering efforts by DC Water and Hampton Roads Sanitation District. These early efforts catalyzed a collaborative ecosystem involving utilities, academics, consultants, technology providers, and PhD researchersâ€"all working together to advance impactful solutions. The session will unpack how this movement began, what lessons have emerged from early implementations, and how these learnings can shape the future of innovation. Expect a dynamic, presentation-free format focused on discussion, knowledge-sharing, and crowd-sourced insights from a diverse panel of experts. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the end of this session, participants will be able to: Define foundational principles and ecosystem dynamics that enabled the open innovation movement in the water sector, including the roles of utilities, academia, consultants, and technology providers. Identify key lessons learned from early implementations of open innovation projects and how collaborative approaches accelerated technology development and deployment. Explore actionable strategies to sustain and evolve open innovation, with a focus on building partnerships, fostering talent, and positioning innovation as a shared, long-term investment.	10/1/2025	10:30 AM	12:00 PM	PDH	1.5	1	0.5	0.5	0.5
532	Using Collaborative Delivery to Build High-Performing Urban Resilience Infrastructure Programs	This session will provide participants with an in-depth look at the innovative collaborative delivery programs that are leading to rapid improvements in the way resilience infrastructure is delivered in urban areas. Led by experts in the field, the session will focus on sharing diverse case studies from New York, Cook County, IL, and Seattle, WA, among other locals, to provide a first-hand perspective on how to set up and run innovative programs that lower costs and accelerate the deployment of resilience infrastructure.	At the conclusion of this activity, participants will be able to: 1. Recognize the specific challenges faced by utilities and municipalities in implementing resilience infrastructure projects and develop strategies to overcome these challenges in their own communities. 2. Evaluate the advantages and disadvantages of traditional procurement strategies for resilience infrastructure and determine how alternative/collaborative delivery models can be tailored to meet the specific needs of their communities. 3. Identify opportunities to establish effective partnerships within their communities to support the successful implementation of resilience infrastructure projects. 4. Identify the critical considerations in choosing an appropriate collaborative delivery procurement process based on the lessons learned from successful collaborative delivery strategies presented during the session. 5. Incorporate authentic community engagement strategies to effectively engage residents in driving resilience infrastructure planning. 6. Enhance marketing and communications plans to more effectively communicate the benefits of resilience infrastructure projects to stakeholders and residents in their communities. 7. Effectively use innovative funding and financing strategies to leverage diverse funding streams available in their communities to support the implementation of resilience infrastructure projects. 8. Gain familiarity with program management tools and decision support mechanisms that prioritize community benefits, equity, and effectiveness within their specific community context. 9. Utilize tracking and monitoring tools presented during the session to	10/1/2025	10:30 AM	12:00 PM	PDH	1.5	0.5	1		1
533	What's New in MOP 27? An Overview of Changes to Financing and Charges for Wastewater Systems	WEF will publish a new edition of Manual of Practice 27: Financing and Charges for Wastewater Systems in the next few months. MOP 27 co-authors will present an overview of the manual content, as well as a summary of the changes made from the current version. Attendees will gain familiarity with the layout of the manual and where to find information related to developing rates and charges for wastewater. This is a conversation and input session. Presenters will have 15 minutes and then provide questions to the audience to discuss for 10 minutes.	At the end of this session, participants will be able to: 1. Summarize the content of Manual of Practice 27. 2. Explain the changes made in the upcoming edition as compared to the current edition. 3. Interpret the new manual as they calculate rates and charges for wastewater.	10/1/2025	10:30 AM	12:00 PM	PDH	1.5	1.5			1

604	Advanced Strategies for Optimization of Sidestream Nitrogen Removal	Sidestream nitrogen removal processes continue to be refined as lessons are gleaned from full-scale operating experience. This session will discuss the challenges with operating sidestream processes and how the lessons learned were applied to existing and next generation installations to optimize nitrogen removal.	At the conclusion of this activity, participants will be able to: 1. Identify common challenges in partial nitritation and anammox (PNA) systems, such as nitrite-oxidizing bacteria (NOB) control, temperature sensitivity, and alkalinity requirements. 2. Recognize how changes in biomass composition, such as the increase in flocculant biomass and decrease in granule count, affect the overall performance and stability of the system. 3. Assess the effects of operational changes, such as solids processing equipment upgrades and temperature setpoint adjustments, on the performance of the sidestream process.	10/1/2025	1:30 PM	2:30 PM	PDH	1.5				0.5
613	Analyze This: Risk Based CIP Planning	Risk Analysis CIP description: These presentation sessions focus on enhancing decision-making processes in organizational planning and risk management. The first session delves into innovative capital improvement planning approaches, emphasizing new methodologies and tools for prioritizing projects based on critical needs, resource allocation, and sustainability. Attendees will learn how to use data-driven strategies and risk management to optimize capital improvement processes. The second session focuses on integrating risk and vulnerability assessments into business decision-making, highlighting how identifying and mitigating risks can improve operational efficiency and strategic planning. Attendees will gain insights into leveraging risk analysis to make more informed, proactive business decisions.	At the end of this session, participants will be able to: 1. Develop CIP Prioritization Strategies 2. Implement Vulnerability Mitigation Strategies 3. Apply Risk Reduction Factors	10/1/2025	1:30 PM	3:00 PM	PDH	1.5	1	0.5	0.5	0.5
606	Can Current Knowledge of CECs Keep Future Contaminants from Emerging?	This session will provide examples of current management and knowledge pertaining to known contaminants of emerging concern, including PFAS, trace organics, and quaternary ammonia compounds. Then the speakers will engage the audience with questions about how the presented information might be applied to avoid recurring cycles of commercial and industrial chemicals posing concerns for human health and the environment. Attendees will be encouraged to discuss the questions posed in small groups to benefit from participants' varied perspectives and knowledge. This is a conversation and input session. Presenters will have 15 minutes and then provide questions to the audience to discuss for 10 minutes.	At the end of this session, participants will be able to: Give examples of management structures currently in place for understanding the occurrence and management of contaminants of emerging concern. Determine scenarios for future contaminants of emerging concern and construct management strategies to lessen the impacts of those contaminants compared to the presented cases. Identify key features of an engagement plan aimed at educating stakeholders the management burden of existing CECs and beneficial policies to reduce the likelihood of future occurrences.	10/1/2025	1:30 PM	2:30 PM	PDH	1.5		1.5		0.5
614	Community Cybersecurity Approach: Secure by Design, Default, Demand, and Direction	Security and resilience of water utilities benefits from a community approach. We will explore the critical concepts of 'Secure by Demand' (utility's perspective), 'Secure by Design' (integrator), 'Secure by Default' (product vendor), and 'Secure by Direction' (government). This presentation aims to provide a comprehensive understanding of how these principles can be effectively implemented across the digital supply chain in the water sector to enhance the security posture of water utilities by enabling them to leverage the community. The session provides short presentations from each perspective and then facilitates a discussion of how they fit together to accomplish security through shared responsibility and community defense-in-depth.	At the conclusion of this activity, participants will be able to: 1. Understand cybersecurity principles across the digital supply chain from different perspectives and be able to identify and implement appropriate security measured tailored for various interactions (e.g., with OEMs, vendors, engineering firms). 2. Learn the importance of compensating controls and be able to make tradeoff decisions between selecting more secure product or implementing compensating controls for security and operational resilience. 3. Understand how government initiatives are impacting utilities, vendors, and integrators across the supply chain and be able to leverage government capabilities to improve how they interact for designing and demanding cybersecurity.	10/1/2025	1:30 PM	3:00 PM	PDH	1.5		1.5	0.5	0.5
605	Decarbonizing Water: GHG Measurement vs Estimates	For nearly two decades, the Intergovernmental Panel on Climate Change (IPCC) guidelines have been the standard for estimating greenhouse gas (GHG) emissionsâ€"carbon dioxide, methane, and nitrous oxideâ€"from wastewater systems. However, emissions can vary significantly among facilities, often leading to substantial over- or underestimations when using guideline-based methods. This session will explore innovative measurement techniques that provide facility-specific GHG emission data, offering a more accurate alternative to IPCC estimates and enabling meaningful comparisons. This is a panel discussion. It will not have traditional presentations but instead a dynamic discussion with a set of panelists. Panelists will provide brief remarks and will focus on their discussion and interaction with the audience rather than a presentation.	At the conclusion of this activity, participants will be able to: 1. Analyze techniques for GHG emission measurement for use in their facilities. 2. Evaluate direct GHG emission measurement vs guideline-based estimation to assess GHG emissions from their facilities.	10/1/2025	1:30 PM	3:00 PM	PDH	1.5		1.5	0.5	0.5

603	Design Build: Wetlands, Rivers, Storms, Oh My!	This session explores three Design-Build projects from concept to construction, showcasing approaches to pipeline construction. Topics include in-system pipe storage to mitigate CSO events, siphon construction for river crossings, and a force main installation in wetlands. Presentations will examine the full lifecycle of design-build projects, from initial design concepts to construction execution and highlight lessons learned.	At the conclusion of this activity, participants will be able to: 1.Gain a deeper understanding of the stages of Design-Build construction and its application in pipeline projects. 2.Navigate the unique design requirements for effective siphon construction in river crossings. 3.Interpret how sustainability-focused design influences collection and treatment system operations.	10/1/2025	1:30 PM	3:00 PM	PDH	1.5		1.5		0.5
611	Full-Scale MABR Successes in Performance Optimization and Nâ‚‚O Control	This session highlights full-scale Membrane Aerated Biofilm Reactor (MABR) applications with a focus on system performance, biofilm development, and process optimization under dynamic loading conditions. Case studies will cover advanced monitoring approaches, integration with existing treatment infrastructure, and the operational levers influencing nitrification and denitrification. Particular emphasis will be placed on quantifying and mitigating nitrous oxide (Nâ‚‚O) emissions, positioning MABR as a viable strategy for energy-efficient, low-carbon nutrient removal.	At the end of this session, participants will be able to: 1. Explain how MABRs support energy-efficient nutrient removal through a biofilm processes. 2. Evaluate full-scale MABR performance and operational optimization strategies. 3. Identify approaches for Nâ‚‚O mitigation in MABR systems via controlled oxygen delivery.	10/1/2025	1:30 PM	3:00 PM	PDH	1.5		1.5		0.5
608	Innovative Applications of Computational Fluid Dynamics Modeling	Computational Fluid Dynamics (CFD) is a powerful tool used to understand flow dynamics. This interactive session analyzes three diverse applications of CFD modeling; from secondary clarifiers, advanced treatment systems, to pump station design. Plant operators and engineers will identify targeted solutions that enhance treatment efficiency and optimize plant operations. Participants will analyze the mixing behavior in a DEMON reactor to optimize performance. The final case study will explore CFD modeling for pump intake design. This is a case study analysis session. Each speaker will have 15 minutes for their presentation. Immediately after there will be 10 minutes for case study analysis in smaller groups.	At the end of this session, participants will be able to: 1. Analyze CFD modeling configurations to optimize secondary clarifier performance. 2. Apply CFD modeling to prevent sludge washout in a deammonification (DEMON) process. 3. Develop a rigorous workplan for CFD model evaluation methodologies and reporting structure of pump intake design.	10/1/2025	1:30 PM	3:00 PM	PDH	1.5		1.5		1
601	Making the Case for Energy Neutrality	Finding a path to achieving energy neutrality can be a complex undertaking. Participate in analyzing a series of case studies that present a cross-section of alternative pathways for achieving energy neutrality, considering regulatory impacts, resilience, and potential revenue. Then discover how each considered project implementation to achieve these objectives, and then see the outcomes. This is a case study analysis session. Each speaker will have 15 minutes for their presentation. Immediately after there will be 10 minutes for case study analysis in smaller groups.	At the end of this session, participants will be able to: 1. Develop a strategy to achieve net neutrality goals, focusing on leveraging existing infrastructure and exploring future opportunities. 2. Implement a phased approach to energy management, making incremental improvements towards energy neutrality/ 3. Evaluate alternative pathways and delivery methods to produce an optimal strategy for energy use.	10/1/2025	1:30 PM	3:00 PM	PDH	1.5	0.5	1		1
617	Mapping and Modeling Mayhem: A Downpour of Flood Mitigation Solutions	In recent years, flooding in U.S. communities has been exacerbated by intensified precipitation, and the flooding is expected to get worse. In this session, presenters will talk about how various forms of modeling and mapping can be used to plan for and mitigate flooding. The presenters will go over their unique case studies, then all presenters will join a panel discussion on which situations it is appropriate to use which model. The floor will be open for audience questions. This is a case study analysis session. Each speaker will have 15 minutes for their presentation. Immediately after there will be 10 minutes for case study analysis in smaller groups.	At the end of this session, participants will be able to: 1. Delineate when to use which type of modeling for which type of flood mitigation and planning.	10/1/2025	1:30 PM	3:00 PM	PDH	1.5		1.5		0.5
607	Nutrient Removal in Fish Hatchery and Egg Processing Wastewater	Nutrients are necessary in producing food for human consumption. Lowering of discharge criteria for nutrients is requiring creative upgrades to wastewater treatment processes. This session will cover liquid/solid separation alternatives evaluated for phosphorus removal from fish hatchery wastewater, upgrading of dissolved air flotation for phosphorus removal and conversion to the Bardenpho process for nitrogen removal in wastewater from an egg processing facility, and total nitrogen reduction using algae in an egg washing wastewater.	At the end of this session, participants will be able to: 1.Identify applicable nutrient removal technologies in treatment of wastewater 2.Distinguish between nutrient removal alternative nutrient removal technologies	10/1/2025	1:30 PM	3:00 PM	PDH	1.5		1.5		1
609	Optimizing the Treatment Train using Advanced Primary Filtration and its impact on Secondary Treatment	This session explores how advanced primary treatment with cloth media primary filtration can improve solids and organics removal, enhance biogas production and improve downstream treatment. Speakers will provide case studies from full scale and pilot scale studies for advanced primary filtration, demonstrating how it augments secondary treatment technologies. Attendees will gain insights into system performance and design considerations for implementation of these technologies at existing and new facilities.	At the conclusion of this activity, participants will be able to: 1. Recognize the potential of advanced primary filtration into mainstream treatment process for operational efficiency and resource recovery. 2. Summarize lessons learned from the implementation of advanced primary filtration with advanced secondary treatment for BNR and energy savings. 3.Identify the benefits of primary filtration as an upgrade option for an existing to optimize energy, footprint savings, wet weather resiliency and regulatory compliance.	10/1/2025	1:30 PM	3:00 PM	PDH	1.5		1.5		1

612	Practical Lessons from NYC's Porous Pavement Infrastructure	This session highlights recent research and implementation efforts focused on porous pavement systems in urban stormwater infrastructure. Drawing on NYC DEP's large-scale deployment of precast porous concrete panels and porous asphalt, presenters will share field-tested findings on performance monitoring, maintenance strategies, and design optimization. The session includes infiltration testing, core sampling analysis, and equipment comparisons to evaluate cleaning effectiveness. Attendees will gain practical insights on construction quality, site selection, and operations and maintenance best practices for porous surfaces in stormwater programs.	At the end of this session, participants will be able to: 1. Compare multiple porous pavement maintenance methods using surface infiltration data to identify the most effective cleaning protocols for restoring permeability. 2. Evaluate construction and post-installation factors affecting long-term performance of porous asphalt and concrete systems using real-world performance data. 3. Apply key design, implementation, and inspection practices from NYC's porous pavement projects to enhance project delivery and infrastructure sustainability.	10/1/2025	1:30 PM	3:00 PM	PDH	1.5		1.5	0.5	
602	Removal, Fate, and Sequestration of PFAS in Biosolids	PFAS, throughout the biosolids handling and treatment process, is a challenge for WRRFs in all geographic regions. Detecting, assessing, and removing material from solids or liquid flow streams is becoming a more critical aspect of future planning for the beneficial reuse of final biosolids or facility effluent. This session will start with research into lower temperature PFAS removal from dewatering filtrate, then to thermal drying air emission control equipment, and conclude with a potential innovative use of multiple challenging waste streams into a single beneficial product, Covering both research and full-scale applications, this session covers a wide range of biosolids PFAS considerations. This is a facilitated discussion session. Presenters will have 15-20 minutes to present which will be followed by 10-15 minutes of facilitated discussion.	At the end of this session, participants will be able to: 1. Identify the various potential approaches to address PFAS in solids processing-related flow streams 2. Evaluate the performance of a widely accepted thermal drying process as it relates to PFAS 3. Examine a co-management approach for challenging compounds through the creation of a beneficial product	10/1/2025	1:30 PM	3:00 PM	PDH	1.5		1.5	0.5	0.5
616	RO and ZLD: Balancing Efficiency	When discharging from a facility that is limited or not an optionâ€¦the combination of RO and thermal process are common concepts typically applied. Due to the nature of the water, RO can be coupled with an evaporator which can be followed by the crystallizer. This session will share collective experience on optimization of these processes. This is a Knowledge Development Forum (KDF) session. Speaker presentations are brief and are meant to stimulate questions and an exchange of information. The conversation is kept moving by instigators who will ask tough questions.	At the end of this session, participants will be able to: 1. Select and identify the best technological alternatives to achieve ZLD 2. Develop and differentiate optimal technological processes that minimizes cost 3. Evaluate and compare different alternatives to achieve goals.	10/1/2025	1:30 PM	3:00 PM	PDH	1.5		1.5		1
615	Talking One Water and PFAS: Proactive Utility Communications	'Please note this was an abstract that is being developed into a 90 minute session, so utility panel speakers are pending- the abstract author has been notified. PCOC will follow up on development. As the challenges surrounding PFAS continue to evolve, utilities must adopt strategic and proactive communication approaches to build trust and navigate operational complexities. This interactive panel session of utility leaders explores simplifying the PFAS narrative through a One Water approach, emphasizing the importance of transparent, adaptive communication to engage stakeholders and effectively support utility reputation management. This is a panel discussion. It will not have traditional presentations but instead a dynamic discussion with a set of panelists. Panelists will provide brief remarks and will focus on their discussion and interaction with the audience rather than a presentation.	At the end of this session, participants will be able to: 1.Outline a roadmap for utility professionals, showcasing actionable steps to enhance communication strategies including: defining One Water linkages, telling the right story, identifying stakeholders and crafting key messages. 2.Present case studies from utilities in Minnesota, Alaska, New Orleans, Denver, Cape Fear and other regions to illustrate the transformative impact of early, consistent PFAS communication. 3.Demonstrate how proactive communications can lead to more resilient relationships and ensure smoother utility operations in the face of regulatory and public scrutiny.	10/1/2025	1:30 PM	3:00 PM	PDH	1.5	1.5		0.5	0.5
610	Tertiary Filtration: Case Studies for Design Optimization	This session explores advanced strategies in tertiary filtration, featuring case studies on pilot testing for design optimization. The abstracts will delve into the development of piloting criteria, testing approach, and tools used to evaluate design optimization solutions. The studies cover snail mitigation in MBR treatment, dissolved organic carbon removal in secondary effluent, and tertiary filter rehabilitation using media testing and CFD modeling. This is a conversation and input session. Presenters will have 15 minutes and then provide questions to the audience to discuss for 10 minutes.	At the end of this session, participants will be able to: At the conclusion of this session, participants will be able to identify unique issues associated with tertiary filtration, recognize critical questions to develop piloting approaches, and appreciate the value of these approaches for decision making associated with design optimization.	10/1/2025	1:30 PM	3:00 PM	PDH	1.5		1.5		1
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	W01 Wastewater Microbiology	Facility operators, managers and engineers will use staining techniques and phase-contrast microscopes to analyze floc and will identify protozoa, metazoan, and filaments to develop practical information to help them control their processes. Lecture will discuss types of microorganisms involved, environmental factors affecting them, and metabolism and growth characteristics that may affect participant's processes. This combination of learning styles should enable participants to immediately help with related process control problems at their facilities.	At the end of this workshop, attendees will be able to: 1. How to use the microscope to understand what is happening at the plant.	9/27/2025	8:30 AM	5:00 PM	CEU	**6.0**		6		6

	W02 Exploring Disinfection Validation in Water Reuse Scenarios	This full-day interactive workshop will dive into the core processes of disinfection validation for water reuse applications. Expert speakers will guide groups of participants to concentrate on understanding and critically evaluating various aspects of the disinfection process, with hands-on exercises centered around the scientific and operational aspects; regulatory considerations; and validation tests result reporting. The workshop will also cover broader topics, such as general water reuse scenarios and regulations, incorporating only key elements that directly influence disinfection validation. The focus will be on real-time application, data collection, and decision-making processes for effective validation.â€¯	At the end of this workshop, attendees will be able to: 1. Select appropriate disinfection methods for potable water reuse based on specific source water characteristics and location. 2. Develop a comprehensive validation plan for disinfection processes, identifying key validation steps and necessary documentation. 3. Provide templates for real-time monitoring protocols to track disinfection efficacy, with the ability to troubleshoot and adjust processes as needed. 4. Integrate disinfection validation tasks into daily facility operations, ensuring continuity in water quality compliance and operational efficiency.	9/27/2025	8:30 AM	5:00 PM	CEU	**6.0**		6	4	
	W03 Integrated Flood Planning: Managing the Storms of the Future	As the impacts of climate change continue to lead to oftentimes devastating storms that result in flooding, it is becoming increasingly important for utility managers to plan ahead and be prepared to respond, rather than react, to these events. This workshop equips utility managers with the tools to bridge advanced flood modeling and actionable policies, enabling communities to prepare for and mitigate future flood risks.â€¯â€¯	At the end of this workshop, attendees will be able to: 1. Understand the various types of flooding and its relationship to changing rainfall patterns 2. Identify key stakeholders, planning and management tools, and funding sources needed to plan resilient systems. 3. Utilize the tools and information provided to make decisions about resource allocation, planning and public outreach that will enable a system to prepare for future flood mitigation and resiliency. 4. Translate modeling insights into actionable financial planning and policies.	9/27/2025	8:30 AM	5:00 PM	**CEU**	**6.0**	2	4		2
	W04 Strategies for Measuring and Mitigating Fugitive Methane Emissions	This interactive workshop will focus on providing participants with a foundation on fugitive methane concepts, monitoring methods, and mitigation strategies through applied theory, and will include interactive equipment demonstrations and case studies analysis. Workshop participants will engage with regulators, technology providers, utilities, consultants, the Department of Energy, and universities to better understand different points of views on this highly relevant topic. Interactive demonstrations will provide hands-on engagement with technology providers and data platforms to better understand applications of fugitive methane measurement.â€¯	At the end of this workshop, attendees will be able to: 1. Identify the drivers, risks, and regulations that influence fugitive methane measurement and abatement in the United States. 2. Recognize different emerging and available technologies for fugitive methane detection and quantification as well as recognize how they were used through multiple US case studies. 3. Develop strategic implementation of abatement solutions as it relates to GHG accounting and climate action plans.	9/27/2025	8:30 AM	5:00 PM	**CEU**	**6.0**		6		2
	W05 Thickening Optimization: Process Improvements and Plant Benefits	This workshop will focus on practical solutions to improve thickening performance for primary and waste activated sludge, including achieving thicker solids, better solids capture, reduced polymer consumption, reduced operation and maintenance costs, enhanced biological phosphorus removal, and smaller or more efficient downstream solids handling processes. The workshop will be of primary interest to plant managers, superintendents, operators, and maintenance staff from municipalities. This topic is critical and timely to the industry, as municipalities are feeling more pressure to reduce their budgets or to 'do more for less,' in addition to addressing the challenges of increasing polymer and solids processing costs.	At the end of this workshop, attendees will be able to: 1. Recognize the impacts and benefits of optimized thickening on other plant processes. 2. List and be able to implement practical steps for mechanical optimization of thickening equipment. 3. Compile, evaluate and prioritize practical operational changes implemented by other municipalities to reduce thickening costs by reducing polymer consumption and operation and maintenance labor and producing thicker solids and high solids capture.	9/27/2025	8:30 AM	5:00 PM	**CEU**	**6.0**		6		2

	W06 Using Process Simulators for Operator Training and Decision-Making	Process simulators are a valuable teaching tool because they allow water professionals to explore the consequences of operational decisions across a resource recovery facility in an interactive, risk-free way. This workshop will demonstrate the strength of simulators to illustrate fundamental resource recovery concepts to water professionals by offering simulator-based training on: use of steady-state and dynamic modeling to assess the impacts of secondary clarifier operation on process performance and use of steady-state and dynamic modeling to operate a nitrifying activated sludge system to achieve year-round nitrification.	At the end of this workshop, attendees will be able to: 1. Demonstrate the value of process models to teach fundamental concepts for resource recovery. 2. Use process simulators to teach the two fundamental resource recovery concepts: Operation of a nitrifying activated sludge system to achieve year-round full nitrification. Secondary clarifier operational impacts on process performance 3. Share experiences on teaching with process simulators. What makes an effective teaching exercise? How do you address different learning styles? What have instructors learned through experience teaching the material? 4. Assemble feedback from operators trained with process simulators on the effectiveness of the exercises presented. 5. Develop simulator-based exercises and problems that can supplement other forms of operator training. 6. Provide trainers, staff supervisors, senior operations staff, and regional member organizations with ideas and resources for expanding operator training and certification programs to include process simulators.	9/27/2025	8:30 AM	5:00 PM	**CEU**	**6.0**		6		3
	W07 Activated Sludge and Biological Nutrient Removal Process Control (Off-site)	Leading practitioners will present this comprehensive workshop and share their experiences in an interactive environment. The all-star cast of presenters first will cover the basics of activated sludge and biological nutrient removal (BNR). Then, they will focus on overcoming practical design problems that have plagued many systems. Process control parameters, side-stream considerations, and tips for identifying microorganisms and establishing a healthy biomass all will be part of the day's demonstrations. The format is informal and real-life examples and questions are welcomed. Note, this workshop is held outdoors at a water resource recovery facility.		9/28/2025	7:45 AM	4:45 PM	**CEU**					
	W12 Demystifying Nitrous Oxide (N2O) Measurement and Quantification (Off-site)	Nitrous oxide (N2O) is a sign of stressed nitrification and biomass 'unhappiness' and is a potent greenhouse gas. N2O in activated sludge and biological nutrient removal systems must be measured to understand how it relates to a facility's operating conditions. Hosted at the Stickney Water Reclamation Plant, participants will experience a practical introduction to N2O measurement and mitigation. Participants will interact with N2O measurement technology demonstrations focusing on operations, maintenance, and troubleshooting.â€¯	At the end of this workshop, attendees will be able to: 1. Describe the linkage between N2O and activated sludge/BNR performance at WRRFs to understand why it's important to measure 2. Plan an N2O measurement campaign including sensor placement 3. Examine N2O data and determine the most important causes of N2O generation 4. Interpret N2O measurement & mitigation work by others globally	9/28/2025	8:15 AM	5:00 PM	**CEU**	**6.0**		6		4
	W20 Facility Tours: Communicating with Public Officials (Off-site)	Negative headlines shouldn't be the reason the public wonders where their wastewater goes. Facility tours provide good publicity and empower your community. What's moreâ€”people want to see the magic of water resource recovery facilities! This workshop focuses on exchanging practical information from seasoned experts (an operator, an engineer, and an educator) to participants new to giving facility tours and/or those who already give tours but desire to make lasting connections with their communities.	At the end of this workshop, attendees will be able to: 1. Understand the risks (and the needs) of assuming information about tour groups. 2. Describe at least 1-2 tools that can be used to connect with tour groups that minimize the need for assuming tour participants' prior knowledge [to the tour]. 3. Provide practical examples of tips for speaking to various audiences of the general public and public officials. 4. Identify environmental hazards and distractions that might adversely affect tour participants' experiences or threaten a facility's tour program. 5. Summarize the special considerations that must be taken when interacting with minors (anyone under 18), including extra security precautions. 6. Perform a simple and adaptable demonstration ('making wastewater') to make tour introductions entertaining, memorable, and educational. 7. Cite some practical considerations on relationships after the tour through storytelling.	9/28/2025	8:15 AM	12:00 PM	**CEU**	**3.0**	3			

	W08 Wastewater Microbiology	Facility operators, managers and engineers will use staining techniques and phase-contrast microscopes to analyze floc and will identify protozoa, metazoan, and filaments to develop practical information to help them control their processes. Lecture will discuss types of microorganisms involved, environmental factors affecting them, and metabolism and growth characteristics that may affect participant's processes. This combination of learning styles should enable participants to immediately help with related process control problems at their facilities.	At the end of this workshop, attendees will be able to: 1. How to use the microscope to understand what is happening at the plant.	9/28/2025	8:30 AM	5:00 PM	**CEU**	**6.0**		6		6
	W09 WEF and WRF: Practical Application of Instrumentation and Controls for Aeration and Nutrient Removal	This workshop provides training for operators, designers, and utility staff on aeration system components, as well as aeration and nutrient removal controls. The workshop will feature hands-on exercises to explore and reinforce different aeration concepts and control strategies through breakout discussions with posters, group problem-solving scenarios, an interactive app, and computer simulation. Additionally, utility leaders will share their experiences with instrument-based controls for nutrient removal, highlighting performance, operation and maintenance, and costs via a facilitated discussion.Â	At the end of this workshop, attendees will be able to: 1. Determine how infrastructure system components (instruments, valves, blowers, controllers) must effectively communicate and be designed and operated for aeration systems to perform optimally. 2. Identify various control systems & related instrumentation for real-time control of aeration and nutrient removal systems. 3. Identify basic troubleshooting processes and common difficulties with advanced control strategies. 4. Incorporate key O&M and cost criteria into selection evaluation. 5. Apply solutions for common programming, setpoint, and tuning challenges.	9/28/2025	8:30 AM	5:00 PM	**CEU**	**6.0**		6		6
	W10 WEF and WRF: Planning Your Data and Analytics Roadmap	This workshop is designed to introduce attendees to the concepts of data architecture and governance, information technology/operational technology integration, advanced analytics and artificial intelligence/machine learning (AI/ML) applications and use cases, and workforce skills. The challenges and opportunities associated with advancing the use of automated analytics and artificial intelligence within water resource recovery utilities will be highlighted through hands-on exercises. Participants will develop a roadmap for a specific advanced analytic use case of interest by stepping through a series of guided prompts designed to encourage consideration of foundational digital concepts needed to support advanced analytics and AI/ML applications.	At the end of this workshop, attendees will be able to: 1. Recognize the foundational concepts for digital readiness that make advanced analytics projects successful. 2. Identify strategies for sustainable development of advanced decision support systems and AI/ML projects. 3. Develop a roadmap for a specific use case of advanced analytics of interest to each participant.	9/28/2025	8:30 AM	5:00 PM	**CEU**	**6.0**	1	5	2	2
	W11 Breaking Barriers for Industrial Water Reuse: Industry and Utility Approach	Join industry leaders at the 'Breaking Barriers for Industrial Water Reuse' workshop to explore innovative solutions for industrial water challenges. This interactive session features case studies from four industries, offering insights into overcoming barriers and implementing effective water reuse strategies. Participants will engage in case study analysis exercises, collaborate on solutions, and learn from experts in the field. Ideal for engineers, facility managers, and water resource professionals seeking to enhance their knowledge and network with peers.â€¯	At the end of this workshop, attendees will be able to: 1. Develop different approaches to industrial water reuse across four different industries. 2. Determine how utilities can assist industries in implementing water reuse projects. 3. Identify and analyze barriers to industrial water reuse through case studies and interactive exercises.	9/28/2025	8:30 AM	5:00 PM	**CEU**	**6.0**		6		
	W13 Game-Based Modeling of Water Resource Recovery Facilities	The objective of this workshop is to provide a high-level understanding of the most widely used, commercially available modeling platforms including BioWin, SUMO, SIMBA#, GPS-X, and WEST for individuals who are interested in learning how models are used and applied for the design, operation, and optimization of water resource recovery facilities. The intent is not to teach the attendees how to use any one software package or build a specific plant model, but rather to demonstrate the capabilities and limitations of all the modeling platforms through an interactive game-based approach.	At the end of this workshop, attendees will be able to: 1.Run a process simulation of an existing plant model in five different software platforms. 2.Produce and interpret the outputs from a simulation. 3.Manipulate operational inputs on various process units. 4.Identify where to find information and help for troubleshooting process models.	9/28/2025	8:30 AM	5:00 PM	**CEU**	**6.0**		6	2	2
	W14 Leveraging Algae to Provide Cost-Effective Treatment Solutions for Your Community	Come learn how to design an algae-based wastewater system to meet strict carbonaceous biochemical oxygen demand and nutrient limits, while decreasing energy use, operation and maintenance costs, and greenhouse gas emissions.â€¯ Algae-based systems have been operating in the United States for more than 15 years and meeting U.S. EPA NPDES standards. This workshop will offer interactive opportunities with consulting engineers, owners, and manufacturers who will help participants design and implement algae-based wastewater treatment systems.â€¯	At the end of this workshop, attendees will be able to: 1. At the conclusion of the workshop the participants will be able to describe the benefits algae provide to wastewater treatment including oxygen production, nutrient assimilation, and CO2 uptake / GHG emissions avoidance. 2. After the workshop participants will be able to identify applications that benefit from using algae-based wastewater treatment. 3. At the conclusion of the workshop the participants will be able to summarize how algae enhance bacterial wastewater treatment. 4. Participants will design a process using algae secondary treatment systems. 5. Participants will understand the different methods to cultivate algae for wastewater treatment.	9/28/2025	8:30 AM	5:00 PM	**CEU**	**6.0**		6		6

	W15 Controlling PFAS by Membrane Technologies	Join our 'Controlling PFAS by Membrane Technologies' workshop to explore the role of membrane technologies in addressing PFAS contaminated waters. This workshop covers membrane functionality, application scenarios, and PFAS disposal strategies. By focusing on some real-world water chemistries, attendees will learn and work collaboratively to select solutions to challenges involving the use of membranes to treat PFAS.	At the end of this workshop, attendees will be able to: 1. Understand the basics of how membranes work when controlling PFAS. 2. Learn about the controlling of different types of PFAS using membranes. 3. Confirm understanding of fundamental concepts related to PFAS and membrane technology. 4. Analyze the structure of various types of PFAS and their membrane removal characteristics. 5. Apply knowledge from initial sections to real-world scenarios by reviewing two water chemistries - ground and surface waters - and create a block flow solution for treating PFAS with membranes. 6. Gain familiarity with various approaches to PFAS disposal in membrane concentrate, including onsite and offsite methods, and understand key factors in selecting and using these methods for treating RO Concentrate. 7. Gain insights into current and future regulations affecting the application of membranes in PFAS management. 8. Identify real-world challenges in using membranes for PFAS treatment to consider in future projects. 9. Explore future problems and barriers that need to be addressed for the expanded use of membranes in PFAS treatment.	9/28/2025	8:30 AM	5:00 PM	**CEU**	**6.0**		6	2	2
	W16 A Climate Adaptation Workshop: Building a Resilient Future	Communities nationwide are already experiencing the impacts of climate change, which is increasingly straining the resilience of utility systems. This workshop will equip participants with a methodology to assess the potential impacts of climate change, even those beyond their direct experience. By visualizing 'what-if' scenarios, participants can explore and evaluate viable adaptation options to address both current and future climate challenges. The workshop will also showcase successful examples of climate adaptation measures.	At the end of this workshop, attendees will be able to: 1. Identify the risks due to climate change from various sources. 2. Identify the risks from climate change and where those risks come from. 3. Apply those risks to their own systems, determine the impacts from climate change on those systems, incorporate solutions and lessons learned to handle the increased flooding risks.	9/28/2025	8:30 AM	5:00 PM	**CEU**	**6.0**	4	2	2	4
	W17 Thermal Drying: State of the Practice, Advancements, and Future Applications	Given rising disposal costs and regulations, many utilities are considering biosolids drying to create sustainable solutions. This workshop will unite operators, technologists, and engineers to explore drying technologies, considerations for dryer implementation, and future areas of collaboration. Focus will be given to how dryers can be successfully integrated into existing utility programs and water resource recovery facilities and future considerations for drying technology advancement, including compatibility with PFAS treatment.	At the end of this workshop, attendees will be able to: 1. Share real-life experiences from utilities and system suppliers with experience commissioning and overseeing long-term operations of dryer facilities to better understand the full cost and benefits of ownership. 2. Collaboratively identify a comprehensive list of considerations related to integration of dryer facilities with upstream WRRF processes, and the impact of new facility subsystems to WRRF staff, such as dried product handling, dust collection, and emissions control. 3. Explore areas for further advancement including integration with post-drying thermal processes (i.e. combustion, pyrolysis, and gasification) and studying the fate of PFAS within drying systems.	9/28/2025	8:30 AM	5:00 PM	**CEU**	**6.0**		6		3
	W18 Transform Your Leadership: A Growth Plan for Everyone	Effective leadership starts with identifying and refining your innate strengths. In this workshop, we'll guide you in developing a personalized Leadership Development Plan that aligns with your career and personal goals. Through self-assessments, career mapping, and leadership coaching, you'll gain the insight and tools to progress as a leader. Whether you are new to the wastewater industry or have extensive experience, this workshop is designed to help chart your unique leadership journey.â€¯	At the end of this workshop, attendees will be able to: 1. Participants will be able to identify their personality type, and understand the influence on behavior, communication and decision-making, 2. Participants will be able to recognize how diverse personality types function within teams. 3. Participants will identify three communication strategies for adaptive conversation and conflict resolution, 4. Participants will develop their Leadership Development Plan and Career Map guide. 5. Participants will expand their network through peer learning and collaboration.	9/28/2025	8:30 AM	5:00 PM	**CEU**	**6.0**	6			

	W19 Biogas to Renewable Natural Gas: System Startups and Safety Protocols	This workshop will highlight the challenges encountered during the startup and commissioning of two biogas upgrading technologies and lessons learned, with an emphasis on the establishment of safety practices associated with the generation of biogas and upgrading to renewable natural gas. Interactive activities will include a discussion of strategies and equipment used for leak detection and exercises for purging systems out of service for maintenance and service purge training protocols, all with active roles for participants.	At the end of this workshop, attendees will be able to: 1. Distinguish leading leak detection technologies. 2. Apply best practices for ensuring the safe operation of flammable gas systems. 3. Analyze and compare RNG plant operations. 4. Distinguish startup and commissioning lessons learned for achieving optimal gas quality. 5. Apply train-the-trainer procedures and templates for proper purge protocols at WRRFs.	9/28/2025	1:30 PM	5:00 PM	**CEU**	**3.0**		3		3
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FT1	Facility Tour 1: Stormwater Management: Metropolitan Water Reclamation District's Robbins Heritage Park and Midlothian Creek Restoration Project	Discover how the Metropolitan Water Reclamation District is partnering with the Village of Robbins to reduce flooding, restore Midlothian Creek, and create new recreational and economic opportunities to revitalize the community. This tour will highlight the Robbins Heritage Park & Midlothian Creek Restoration Project, designed to mitigate overbank flooding through a stormwater park and pond, creek improvements, and an overflow channel connecting to the Cal-Sag Channel. Attendees will learn about the project's environmental and community impact, as well as future development plans. The first phase of the project was completed on October 31, 2024, marking a major milestone in this transformative effort.	Please see agenda for further details.	9/29/2025	10:00 AM	12:00 PM	**PDH**	**2**		2		
FT2	Plant Chicago—Cultivating Local Circular Economies	Discover Chicago's only circular-economy-focused community hub, housed in a historic 100-year-old firehouse transformed into a decarbonized, shared-use urban agriculture facility. This tour offers an inside look at innovative food systems and sustainable practices shaping the future of urban agriculture. Participants will explore the industrial vortex generator, a collaborative growing space, along with various integrated systems, including aquaponics, hydroponics, beekeeping, and an on-site chicken coop. The tour also highlights the locally sourced retail space, subsidized food box program, and community initiatives that support food access and sustainability. Attendees will have the opportunity to learn about the hub's educational programs, small business workshops, swap events, and solar outreach efforts. The tour will conclude with a Q&A session, providing insight into how this unique space fosters sustainability, community engagement, and economic resilience.	Please see agenda for further details.	9/30/2025	10:00 AM	11:00 AM	**PDH**	**1**		1		
FT3	Wild Mile Tour	Explore the Wild Mile, the world's first floating eco-park and a pioneering green infrastructure project by Urban Rivers. This tour highlights the transformation of the Chicago River through innovative ecological restoration and community-driven design. Participants will learn about the project's history, its role in reintroducing critical native wetland habitats, and how it provides accessible greenspace in an otherwise hard-to-reach urban environment. The tour will include an up-close look at the newest section of the Wild Mile, installed in 2024, and insights into the design and implementation process. Attendees will also gain a deeper understanding of the floating gardens' impact on urban biodiversity and water quality. The experience will conclude with a Q&A session to discuss the project's ongoing evolution and future initiatives.	Please see agenda for further details.	9/30/2025	10:00 AM	11:00 AM	**PDH**	**1**		1		

FT4	Collections Systems Tour: Metropolitan Water Reclamation District's Stickney Water Reclamation Plant and the Tunnel and Reservoir Plan (TARP AKA "Deep Tunnel") McCook Reservoir	Explore one of the world's largest wastewater treatment facilities at the Stickney Water Reclamation Plant (WRP), which processes an average of 700 million gallons per day with a capacity of up to 1.4 billion gallons per day. This guided tour will provide an in-depth look at the Tunnel and Reservoir Plan (TARP), including the "Deep Tunnel" pumping station and the McCook Reservoir, key components in managing stormwater and reducing flooding. Attendees will also learn about the plant's biosolids operations, which play a critical role in sustainable waste management and resource recovery.	Please see agenda for further details.	9/30/2025	1:00 PM	5:00 PM	**PDH**	**4**		4		
FT5	Collections Systems Tour: Metropolitan Water Reclamation District's Stickney Water Reclamation Plant and the Tunnel and Reservoir Plan (TARP AKA "Deep Tunnel") McCook Reservoir [REPEAT]	Explore one of the world's largest wastewater treatment facilities at the Stickney Water Reclamation Plant (WRP), which processes an average of 700 million gallons per day with a capacity of up to 1.4 billion gallons per day. This guided tour will provide an in-depth look at the Tunnel and Reservoir Plan (TARP), including the "Deep Tunnel" pumping station and the McCook Reservoir, key components in managing stormwater and reducing flooding. Attendees will also learn about the plant's biosolids operations, which play a critical role in sustainable waste management and resource recovery.	Please see agenda for further details.	10/1/2025	9:00 AM	1:00 PM	**PDH**	**4**		4		
FT6	Chicago Riverwalk and McCormick Bridgehouse & Chicago River Museum Tour	Join a Friends of the Chicago River representative for a guided 45-minute walking tour along the Chicago Riverwalk, exploring over 40 years of efforts to restore and revitalize the river from environmental decline. Learn about key initiatives that have transformed the waterway into a thriving urban ecosystem. The tour concludes at the McCormick Bridgehouse & Chicago River Museum, where guests will embark on a guided exploration of the Chicago-Calumet River system and the city's iconic moveable bridges. This portion of the tour lasts approximately 60 minutes and provides a deeper look into the history, engineering, and significance of Chicago's riverfront infrastructure.	Please see agenda for further details.	10/1/2025	10:00 AM	12:00 PM	**PDH**	**2**		2		
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OC1	Operations Challenge - Day 1	The Water Environment Federation's Operations Challenge is the industry's premier professional skills competition. Held annually at WEFTEC, the event recognizes excellence in wastewater operations. Teams are evaluated in five events that demonstrate the span of skills necessary for contemporary water quality professionals. The event exposes participants to emerging practices and products in a competitive, educational, and social atmosphere. More than 50 teams will participate and must be endorsed by their Member Association. The two-day event takes place Monday and Tuesday during conference.	Only participating teams receive CE credits for this event. No credits are given to audience members.	9/29/2025	8:30 AM	5:00 PM	**CEU**	**6.0**		6		6
OC2	Operations Challenge - Day 2			9/30/2025	8:30 AM	5:00 PM	**CEU**	**6.0**		6		6