UTILITY OPERATIONS & MANAGEMENT

Leadership & Workforce

In the next 10 to 20 years, disruptive challenges like workforce changes may impact the ability of water utilities to meet their committed levels of service for their ever-changing service areas. As essential service providers, how can water utilities proactively plan for business continuity and be ready to attract and train new staff?

CRITICAL FUTURE DISRUPTORS

For the purposes of this effort, a disruptor is defined as something that interrupts an event, activity, or process by causing a disturbance, problem, or opportunity. Disruptors can arise as barriers to normal operations or may present opportunities to do things differently/innovate.

The following items were chosen by a diverse group of water leaders and experts as the most significant future disruptors that water utilities must anticipate and plan for.

RECRUITMENT
As utilities face increased attrition, there is a need to complete succession planning and attract and retain the next generation of water workers.

TECHNOLOGY
As more and more advanced water treatment approaches are brought to market, additional training and recruitment to build technical knowledge of the water workforce will become more vital.

COMMUNITY FOCUS
Increasingly, utilities are likely to be viewed as change makers and community builders. Utility communication will become more important than ever, as well as collaboration with community groups and new partners from outside the water sector.

GENERATIONAL CONCERNS
As the current generation of water workers approaches retirement, utilities may have to find new strategies to attract the next generation of technologically savvy water workers. To compete for and successfully attract this talent, utilities will have to present themselves as interesting and innovative places to work.

WRF's Upstream Strategies project convened diverse water sector leaders and experts to discuss future water challenges and related research opportunities.

THE Water Research FOUNDATION

REGULATORY

New and revised regulations will require utilities to adjust their work practices in many areas (e.g., decentralized systems, responding to increasingly stringent water quality regulations).

● ● ● RESEARCH OPPORTUNITIES

Based on these critical future disruptors, experts prioritized the following targeted research areas:

TECHNOLOGY

Research is needed on technologies to improve SCADA security, virtual 3D training for staff/digital learning management systems, customer real-time access to water usage data, incorporating AI into business practices, electrical signature analysis for motors, and more.

REGULATORY

Research is needed to identify innovative approaches to incorporate real-time and remote monitoring of treatment systems, distribution systems, and watershed conditions to enhance the ability of water utilities to comply with increasingly stringent regulatory requirements.

WORKFORCE

Research is needed on the best approaches to attract, train, and retain the next generation of water workers in leadership, implementation of new technologies, and enhanced transparency in community engagement.

SOCIAL CHANGES

Research is needed to identify effective strategies to engage the full diversity of our communities and tailor the delivery of water services based on the unique needs of different segments of the community. This research will also need to enhance strategies for community-based decision making and help the water workforce to better engage with the communities they serve.

UTILITY GOVERNANCE/INSTITUTIONAL CHANGES

Research is needed on the best ways to implement cross-functional utility teams to reduce departmental silos; more fully leverage diversity, equity, and inclusion frameworks; and improve worker safety.

CLIMATE CHANGE AND RESILIENCE

Research is needed to identify the best educational outreach tools for the water workforce to engage with their communities. One main focus for this engagement is finding collaborative approaches to address climate change challenges.