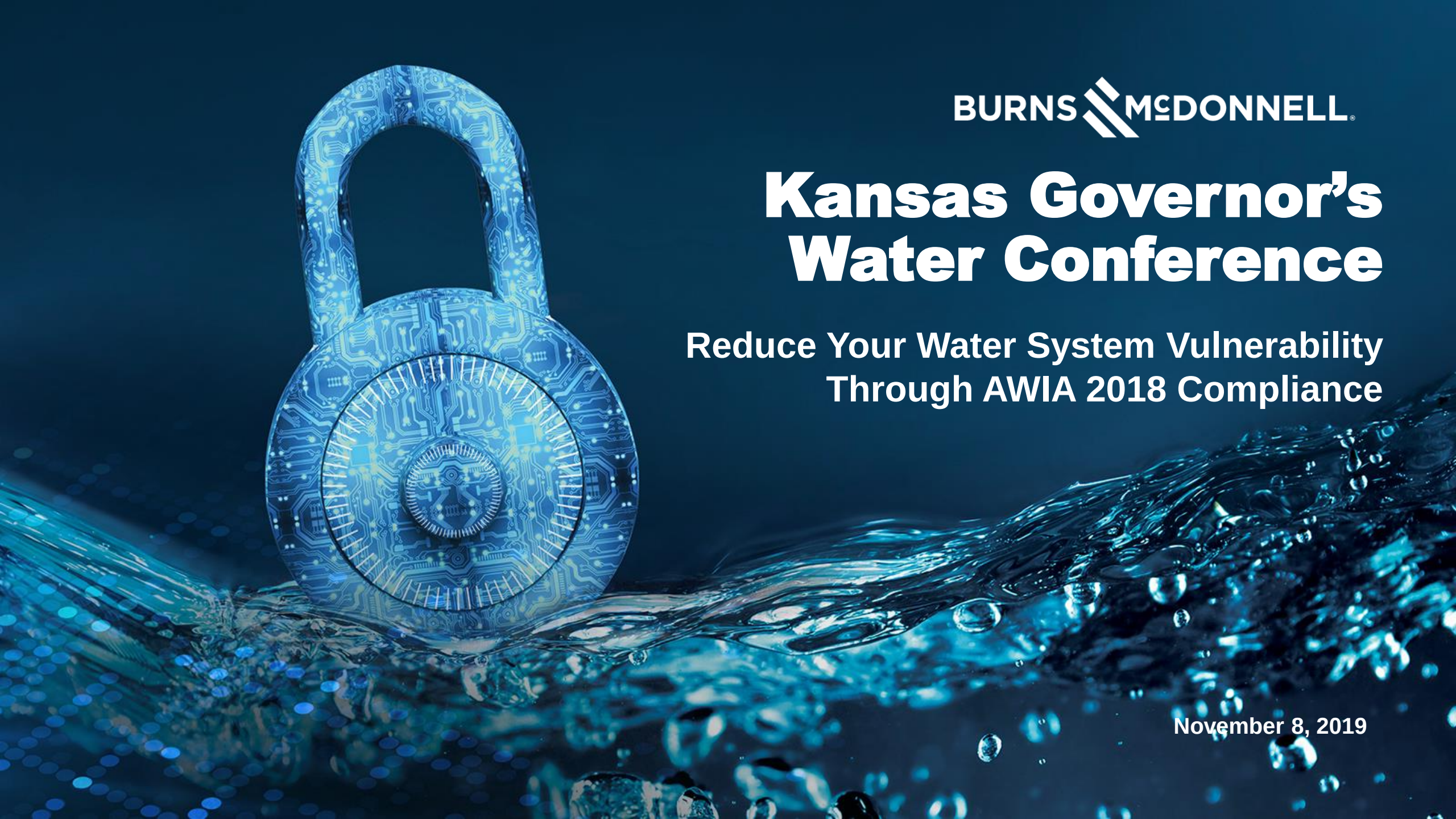


BURNS McDONNELL

Kansas Governor's Water Conference

Reduce Your Water System Vulnerability Through AWIA 2018 Compliance

November 8, 2019

What makes water infrastructure essential is also what makes it a target: clean, reliable water is vital for both human health and economic stability.

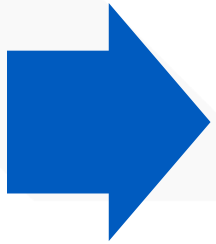
America's Water Infrastructure Act (AWIA)

- Signed into law on October 23, 2018

1. Community Water System Risk and Resilience Assessments (Section 2013)
2. Amendments to the Emergency Planning and Community Right-to-Know Act (EPCRA)
3. Changes to Drinking Water State Revolving Fund
4. All water systems >3,300 must participate in Unregulated Contaminant Monitoring Rule
5. Consumer Confidence Reports – biannually for systems serving > 10,000 people Asset Management and Capacity Development Strategies
6. (even more…)

Water System Risk and Resilience Assessments

Bio Terrorism Act 2002



America's Water Infrastructure Act 2018

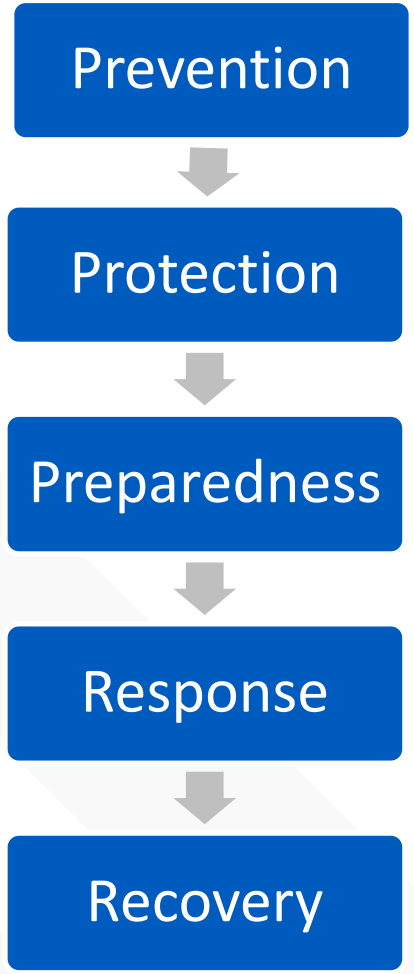
AWIA Water System Requirements

Risk & Resilience Assessments	• ***Components of the risk assessment are detailed on the following slide*** • Tools Include: ANSI/AWWA J100-10(R13), AWWA G300, G430, G440 and M19
Assessment Certification	• Utility certifies that an RRA has been completed.* • Must be completed every 5 years.
Emergency Response Plans (ERP)	• Strategies to improve resilience, including physical/cyber security • Plans, procedures, and equipment to be used in response • Actions, procedures, equipment to lessen impact on public health
ERP Certification	• Utility certifies that the ERP has been developed.* • Must be revised and certified every 5 years.

**Failure to submit certification is subject to a $25,000/day penalty.*

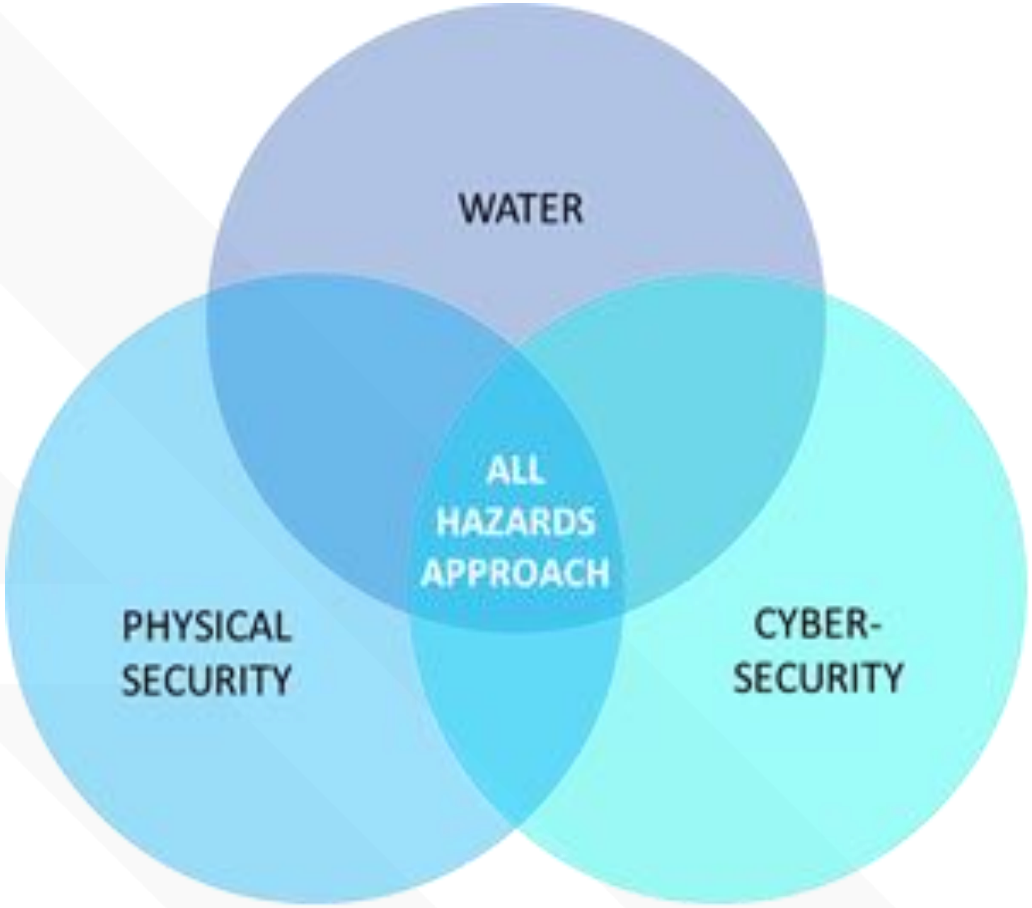
Water System Risk and Resilience Assessments

- Applies to community water systems serving **more than 3,300** people
- EPA and American Water Works Association (AWWA) have developed resources and tools to assist utilizes in AWIA compliance
- Focuses on “All-Hazards Approach”
- No prescribed process or tools
- EPA intends on utilities to be able to self-perform RRAs and ERPs



All-Hazards Approach

- Malevolent Acts – Outside and insider threats
- Natural Hazards – Extreme weather, flooding, hydrologic changes, etc.
- Resilience of water system infrastructure
- Resilience of electronic, computer, or other automated systems (including the security of such systems)
- Dependency threats
- Proximity threats



Risk & Resilience Assessments Shall Consider

- Risk to the system from malevolent acts and natural hazards
- Resilience of critical infrastructure utilized by the system
- Monitoring practices of the system
- Financial infrastructure of the system
- Use, storage or handling of various chemicals
- Operation and maintenance of the system
- Evaluation of capital and operational needs for risk and resilience management

Critical Assets Evaluated For

- **Resiliency** — Overall integrity and reliability (resiliency) of water sources and drinking water infrastructure against natural hazards (weather, natural disasters, life cycle, etc.)
- **Physical Security** — How assets are physically secured and adequately protected against acts of terrorism, malevolent acts and/or crimes of opportunity.
- **Cybersecurity** — Identification of cybersecurity vulnerabilities to IT/OT networks and any associated financial management related systems (bill-pay, payroll, etc.)

Risk Analysis

- Identify critical assets
- Select appropriate threats and hazards
- Calculate consequences for each threat-asset pair
- Estimate effectiveness of existing mitigation measures
- Calculate threat likelihood
- Calculate baseline risk
- Apply mitigation measures and re-calculate risk

Risk = Consequence ($) * Vulnerability * Threat Likelihood

Resilience = Outage * Vulnerability * Threat Likelihood

Emergency Response Planning Criteria

- Strategies and resources to **improve system resilience** including physical security and cybersecurity
- **Plans and procedures** that can be implemented in the event of a malevolent act or natural hazard that threatens the ability of the community water system to deliver safe drinking water
- Actions, procedures and equipment which can **obviate or significantly lessen the impact** of a malevolent act or natural hazard on the public health and the safety and supply of drinking water provided to communities and individuals
- Strategies that can be used to aid in the **detection** of malevolent acts or natural hazards that threaten the security or resilience of the system

- EPA ERP Template and Instructions are available

Community Water System ERP

- Each water system has a unique starting point
- Coordination with State and Local Emergency Response Committees
- Water and Wastewater Agency Response Networks (WARNs)
- Water Utility Information
- Resilience Strategies
  - Emergency Response Roles
  - Incident Command System (ICS) roles
  - Communication templates
  - Media Outreach and Public Notification

Community Water System ERP

- Core Response Procedures
  - Alternate access
  - Physical and cybersecurity
  - Power loss
  - Alternate water supplies
  - Sampling and analysis procedures and logistics
- Incident Specific Emergency Response Plans
  - Cyber attack
  - Drought
  - Flooding
  - Tornado
  - Wildfire
  - Source water contamination

https://www.epa.gov/waterutilityresponse

Certification Deadlines

POPULATION SERVED	RISK ASSESSMENT	EMERGENCY RESPONSE PLAN
100,000+	Due March 31, 2020	Sep 30, 2020
50,000-99,999	Due Dec. 31, 2020	June 30, 2021
3,301-49,999	Due June 30, 2021	Dec 30, 2021

*Emergency response plan certifications are due six months from the date of the risk assessment certification. The dates shown above are certification dates based on a utility submitting a risk assessment on the final due date.

5-Year Cycle for RRA and ERP Update and Certification

Resources

- https://info.burnsmcd.com/americas-water-infrastructure-act
- https://www.congress.gov/115/plaws/publ270/PLAW-115publ270.pdf
- https://www.epa.gov/ground-water-and-drinking-water/americas-water-infrastructure-act-2018-awia
- https://www.epa.gov/waterutilityresponse
- https://www.awwa.org/Resources-Tools/Resource-Topics/Risk-Resilience

Questions?

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