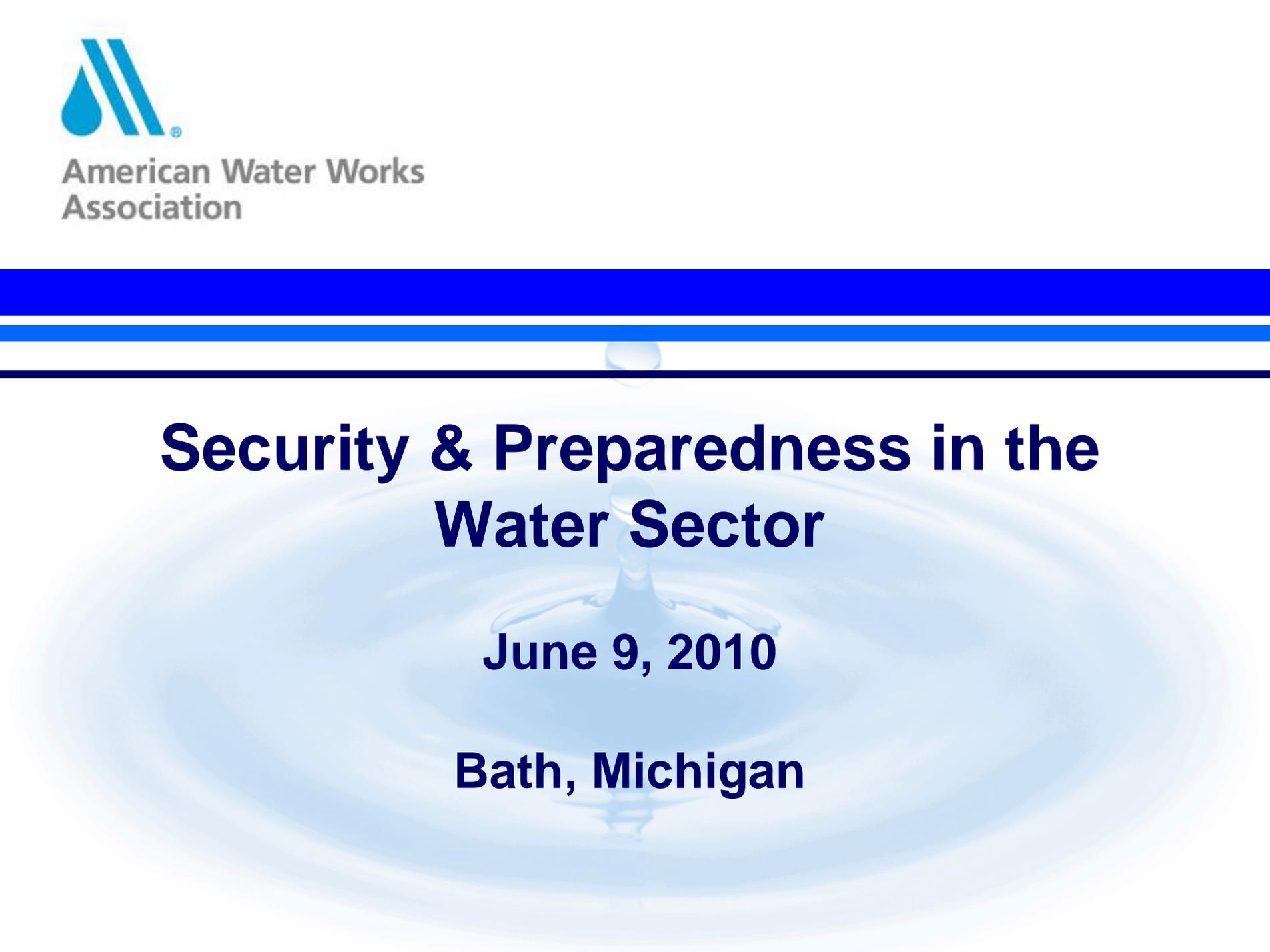




American Water Works  
Association

A large, light blue water splash graphic is centered on the page, with a single drop falling from the top and creating concentric ripples. The splash is semi-transparent, allowing the text to be seen through it.

# **Security & Preparedness in the Water Sector**

**June 9, 2010**

**Bath, Michigan**

# Overview

- **Key Drivers**
  - **Legislation**
  - **Presidential Directives**
- **AWWA & Sector Initiatives**
  - **Standards & Guidance**
  - **Mutual Aid & Assistance**
  - **Emergency Water Supply**
  - **Contamination Warning Systems**
  - **Cyber/Process Control Systems**

# Security & Preparedness Drivers

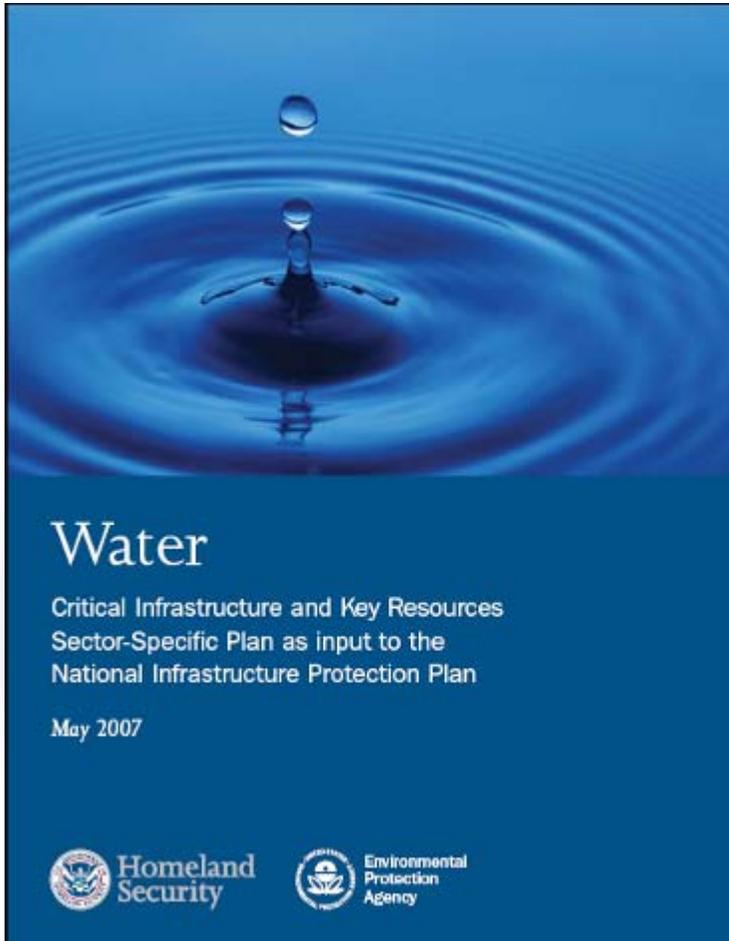
- **Bioterrorism Act**
- **Patriot Act**
- **Homeland Security Act**
- **Critical Infrastructure Information Protection Act**
- **Intelligence Reform Act**
- **Homeland Security Presidential Directives (HSPDs)**



# Homeland Security Presidential Directives

- **HSPD-5: Management of Domestic Incidents**
  - National Incident Management System (NIMS)
  - National Response Plan (NRP)
- **HSPD-7: Critical Infrastructure Identification, Prioritization and Protection (replaces PDD-63)**
  - National Infrastructure Protection Plan (NIPP)
  - Sector Specific Plans (SSP)
- **HSPD-8: National Preparedness**
- **HSPD-9: Defense of Ag & Food**
- **HSPD-10: Biodefense for the 21<sup>st</sup> Century**
- **HSPD-12: Common Identification Standard**
- **HSPD-20: National Continuity Policy**

# The Water Sector Vision



- ***A secure and resilient drinking water and wastewater infrastructure that provides clean and safe water as an integral part of daily life. This Vision assures the economic vitality of and public confidence in the nation's drinking water and wastewater through a layered defense of effective preparedness and security practices in the sector.***

# SSP Goals

- 1. Sustain protection of public health and the environment.**
- 2. Recognize and reduce risks in the water sector.**
- 3. Maintain a resilient infrastructure.**
- 4. Increase communication, outreach, and public confidence.**

# AWWA Standards & Guidance

1. ANSI/AWWA G430-09: Security Practices for Operations and Management
2. ASME-ITI/AWWA J100-10 Risk Analysis and Management for Critical Asset Protection (RAMCAP) Standard for Risk and Resilience Management of Water and Wastewater Systems
3. AWWA Gxxx: Emergency Preparedness Practices
4. Selecting Disinfectants in a Security-Conscious Environment

# ANSI/AWWA G430-09: Security Practices for Operations and Management

**Purpose:** This standard defines the minimum requirements for a protective security program for a water or wastewater utility that will promote the protection of employee safety, public health, public safety, and public confidence.

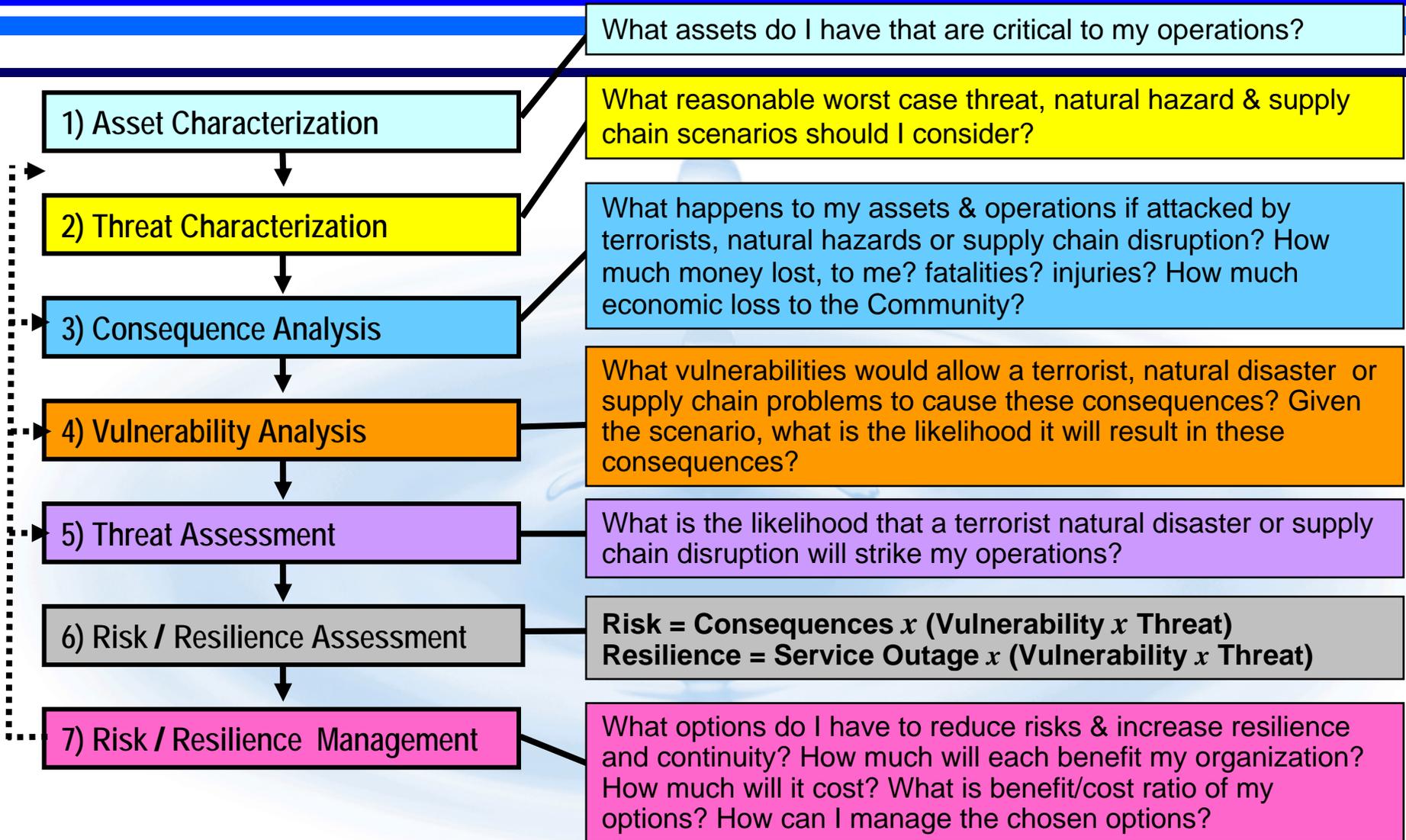
This standard builds on the long-standing practice amongst utilities of utilizing a multiple barrier approach for the protection of public health and safety.

# ANSI/AWWA G430-09: Security Practices for Operations and Management

## Requirements:

- a) Explicit Commitment to Security
- b) Security Culture
- c) Defined Security Roles and Employee Expectations
- d) Up-To-Date Assessment of Risk (Vulnerability)
- e) Resources Dedicated to Security and Security Implementation Priorities
- f) Access Control and Intrusion Detection
- g) Contamination, Detection, Monitoring and Surveillance
- h) Information Protection and Continuity
- i) Design and Construction
- j) Threat Level-Based Protocols
- k) Emergency Response and Recovery Plans and Business Continuity Plan
- l) Internal and External Communications
- m) Partnerships
- n) Verification

# ANSI/ASME-ITI/AWWA J100-10 Risk Analysis and Management for Critical Asset Protection (RAMCAP) Standard for Risk and Resilience Management of Water and Wastewater Systems

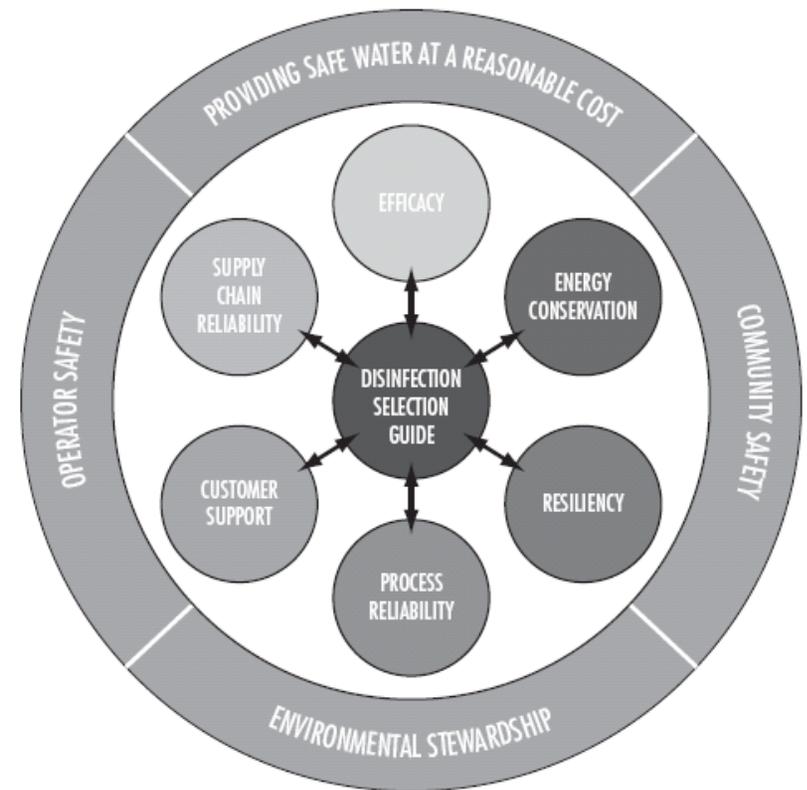


# GXXX: Emergency Preparedness Practices (draft)

**Purpose:** This standard defines the minimum requirements for emergency preparedness for a water or wastewater utility. Emergency preparedness practices include the development of an emergency response plan (hazard evaluation, hazard mitigation, response planning, and mutual aid agreements), the evaluation of the emergency response plan through exercises, and the revision of the emergency response plan after exercises.

# Selecting Disinfectants in a Security Conscious Environment

- Provide guidance to water, wastewater, and reuse utilities
- Framework to evaluate disinfection alternatives that:
  - Reflects local circumstances
  - Addresses utility's specific disinfection objectives
  - Provides framework to compare options consistently and transparently
  - Accounts for reliability, safety, and other key criteria
  - Reflects the need to incorporate risk communication within process
  - Scalable across system sizes
  - Integrates risk-based performance measures for security based on CFATS

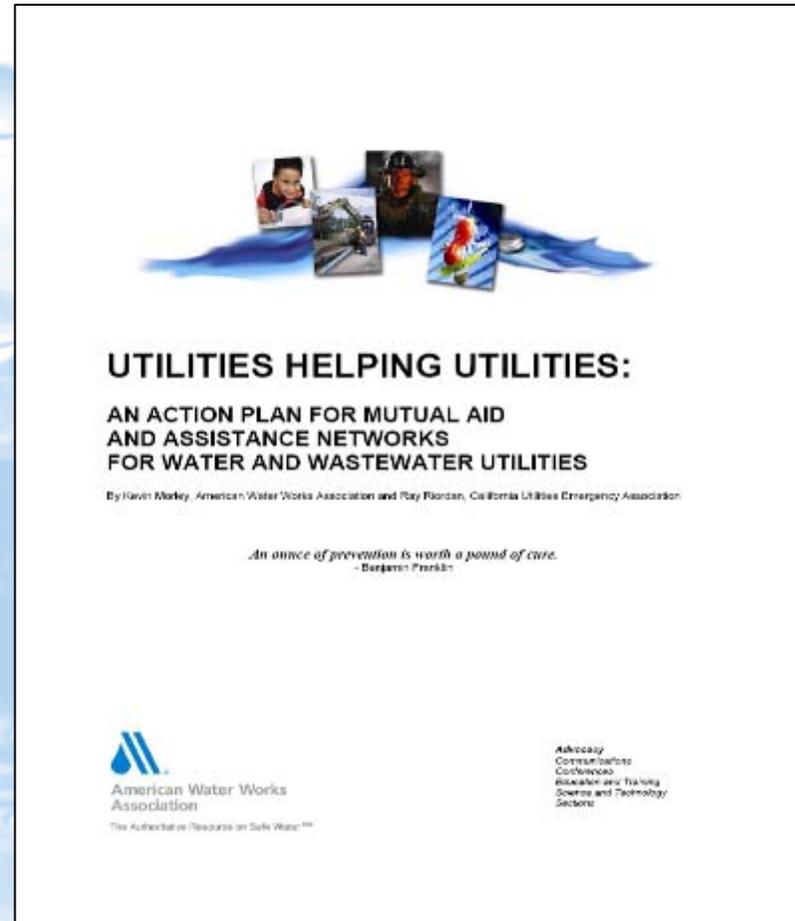


# Resiliency Initiatives

- **Mutual Aid & Assistance**
  - WARN
  - Resource Typing
- **Emergency Water Supply**
  - National Strategic Plan
  - Healthcare
- **Contamination Warning Systems**
- **Cyber/Process Control Systems**

# The WARN Action Plan (March 2006)

- **WARN Agreement**
  - **Voluntary**
  - **No Obligation**
  - **No cost**
  - **Liability/Workmans Comp**
  - **Reimbursement process**
  - **Element of NIMS**
  - **All-Hazards**

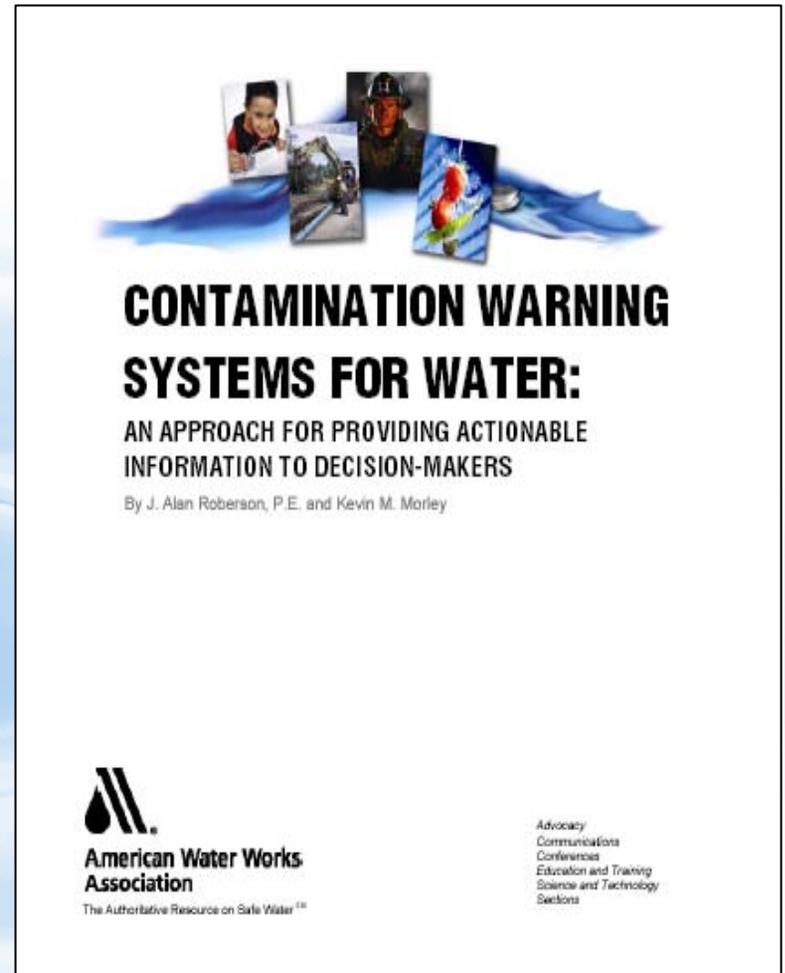


# Emergency Water Supply

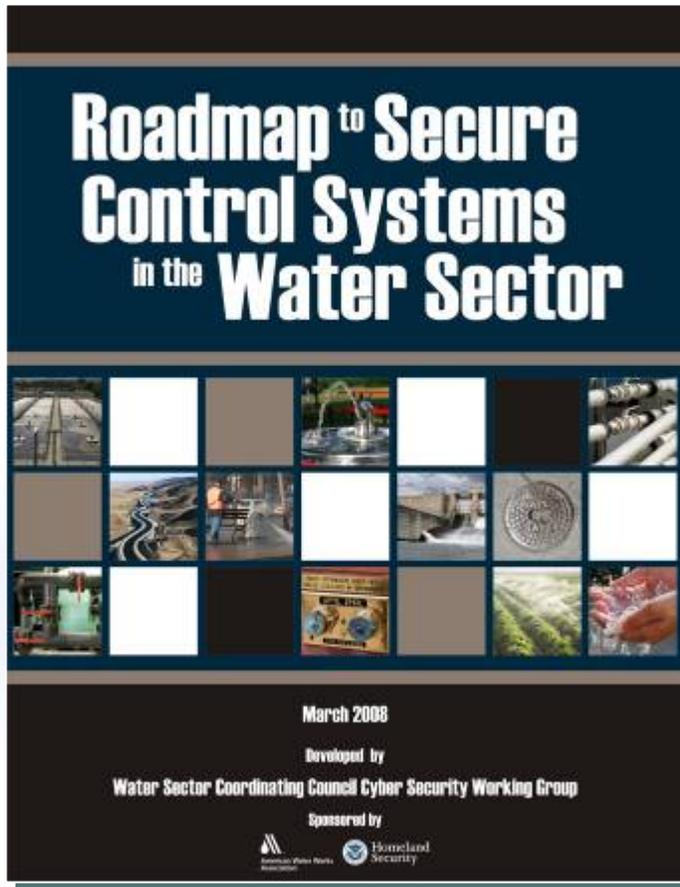
- **National Strategic Plan for Emergency Water Supply**
  - EPA-NHSRC/AWWA collaboration
  - Provide guidance for utility preparedness
  - Develop recommendations to clarify roles and responsibilities under current or new ESF
- **Emergency Water Supply Planning for Hospitals and Health Care Facilities**
  - CDC/AWWA collaboration
  - Address gaps in Joint Commission standards

# The Contamination Scenario

- What is the objective of a contamination warning system?
- What are the appropriate monitoring technologies?
- Where do we put the monitors and how often do we monitor?
- How do we integrate and analyze the indicator data?
- What would constitute an alarm?
- What do we do when the alarm goes off?



# Cyber Security



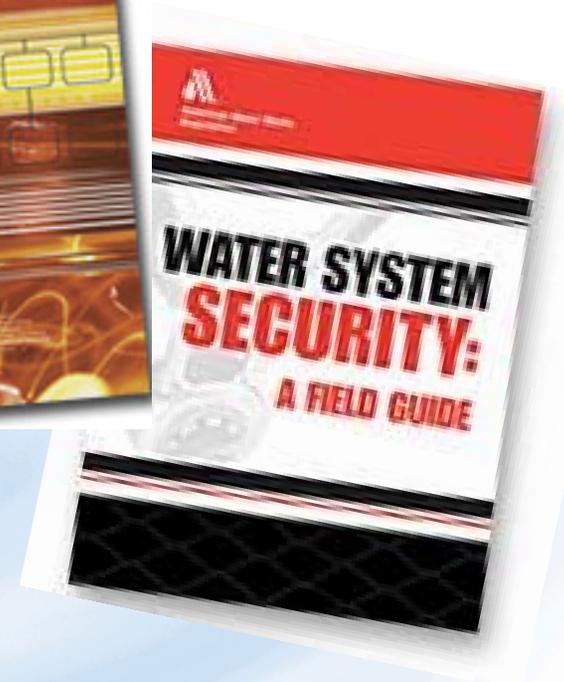
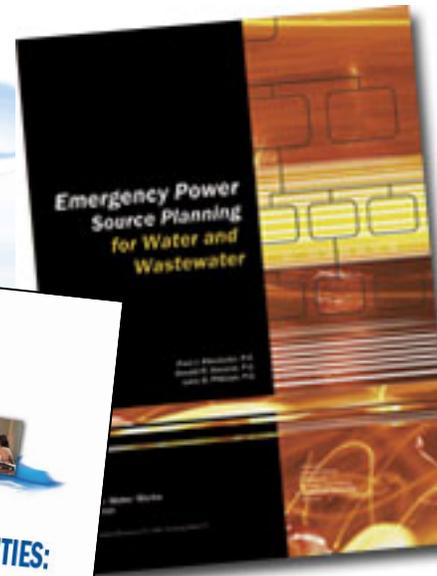
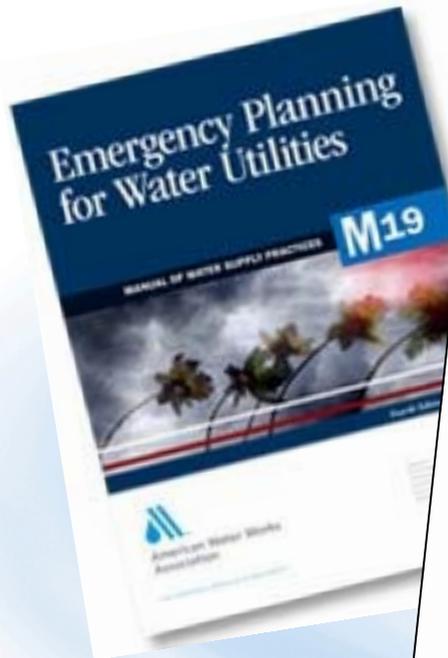
## Vision

In 10 years, industrial control systems for critical applications will be designed, installed, and maintained to operate with no loss of critical function during and after a cyber event.

## Key Strategies

- Develop and Deploy ICS Security Programs
- Assess Risk
- Develop and Implement Protective Measures
- Partnership and Outreach

# Additional Resources



# Questions

**Kevin M. Morley**

**Security & Preparedness Program Manager**

**AWWA – Government Affairs**

**1300 Eye Street, NW Suite 701W**

**Washington, DC 2005**

**202-628-8303 or [kmorley@awwa.org](mailto:kmorley@awwa.org)**

**Water  
Security  
Congress**

**2010**



**Water Security Congress**

**Washington, DC**

**Sept 19-22, 2010**