

EMERGENCY RESPONSE PLANS

Bioterrorism Act

June 12, 2002 – Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (Bioterrorism Act) SDWA Section 1433

The Bioterrorism Act directs EPA to conduct “a review of the methods and means by which alternative supplies of drinking water could be provided in the event of destruction, impairment or contamination of public water systems”

Vulnerability Assessment

The vulnerability assessment shall include, but not be limited to a review of:

- 1. Pipes and constructed conveyances
- 2. Physical Barriers
- 3. Water collection, pretreatment, treatment, storage and distribution facilities
- 4. Electronic, computer or other automated systems which are utilized by the public water system
- 5. The use, storage, or handling of various chemicals
- 6. The operation and maintenance of such system

Emergency Response Plan

Eight Core Elements:

1. System Specific Information
2. Water System Roles and Responsibilities
3. Communication Procedures: Who, What, and When
4. Personnel Safety
5. Identification of Alternate Water Sources
6. Replacement Equipment and Chemical Supplies
7. Property Protection
8. Water Sampling and Monitoring

Risk and Resilience under America's Water Infrastructure Act (AWIA)

October 23, 2018 - AWIA Section 2013 (a) – (f) replaces SDWA Section 1433

Community Water Systems serving >3,300 shall conduct risk and resilience assessments for built, technological, cyber, and financial infrastructure. Water systems do not send assessment to EPA, but must certify that the assessment has been completed.

“Resilience” is defined as the ability of a community water system or an asset of a community water system to adapt to or withstand the effects of a malevolent act or natural hazard without interruption to the asset’s or system’s function, or if the function is interrupted, to rapidly return to a normal operating condition.”

After completion of risk and resilience assessment, each system must prepare or revise an emergency response plan that incorporates the findings of the assessment.

Risk and Resilience Assessments

Consider risks to the water system from malevolent act and natural hazards. Items to assess:

- Pipes/conveyances, physical barriers, source water, water collection/intake,
- pretreatment, treatment, storage and distribution, electronic, computer, or other automated systems (including security);
- Monitoring practices;
- Financial infrastructure;
- Use, storage or handling of chemicals;
- Operation and maintenance; and
- May include capital and operational needs for risk management

Emergency Response Plans

Prepare or revise an ERP that incorporates findings from the risk assessment

- Strategies and resources to improve resilience, including physical security and cybersecurity;
- Plans, procedures, and equipment for responding to a malevolent act or natural hazard;
- Actions, procedures, and equipment to lessen the impact of a malevolent act or natural hazard, including alternative source water, relocation of intakes, and flood protection barriers;
- Strategies to detect malevolent acts or natural hazards.

Certification

Each Community Water System must certify to EPA that the water system completed the emergency response plan no later than six months after certifying completion of its risk and resilience assessment .

- Do NOT send the actual risk assessment or ERP
- Include only the CWS name, date of completion, and statement of completion, EPA will provide an optional certification template for the risk assessment and ERP
- EPA will provide three options for submittal:
 - 1. Regular mail
 - 2. Email
 - 3. Secure online portal (Under development)

Deadlines

Systems serving 100,000 people or more must submit their certification that the system has conducted a risk and resilience assessment by March 31, 2020.

Systems serving 50,000 – 100,000 people by December 31, 2020.

Systems serving between 3,300 and 50,000 people by June 30, 2021.

Every five years, utilities would be required to certify to EPA that they have reviewed their assessments and certify completion of emergency response plans.

AWIA Assistance

Prior to August 1, 2019, EPA plans to publish additional resources, tools, and fact sheets to assist with meeting the requirements of the AWIA including baseline information on malevolent acts of relevance to community water systems.

EPA does not require the use of any standards or tools to develop a risk assessment or ERP under AWIA.

New versions of the EPA's Vulnerability Self-Assessment Tool and Emergency Response Plan guidance to assist water systems.

<https://www.epa.gov/waterresilience/americas-water-infrastructure-act-2018-risk-assessments-and-emergency-emergency-response-plans>.

EPA shall establish a grant program (Drinking Water Infrastructure Risk and Resilience Program) for CWS owners and operators to increase resilience

Authorizes (not appropriated) \$25 M for each FY20 and 21

2002/2018

BIOTERRORISM ACT

Vulnerability Assessment (VA)

Terrorism or Intentional Act

Submit Vulnerability Assessment to
EPA

Complete Emergency Response Plan

AWIA 2018

Risk & Resilience Assessment

All-Hazards

Submit Letter to EPA

Prepare/Update & Submit letter to
EPA

CONTINGENCY PLAN

Contingency Planning

A contingency plan outlines roles and responsibilities in the event that the water system experiences a disruption due to contamination, loss of power, and natural disasters.

The contingency plan helps local officials make informed decisions under the most adverse conditions.

A contingency plan increases the likelihood that correct and immediate action will be taken and that damage or potential health risk will be minimized.

Contingency Planning Tool

DEQ Contingency Plan Template Information:

- System Information
- System Location
- Responsible Persons
- Potential Threats
- Emergency Procedures
- Emergency Meeting Location
- Contact List
- Chain of Command
- Public Notification
- Responsible Actions for Specific Events
- Alternate Water Supplies

System Information

The following information is automatically loaded based on information in the Safe Drinking Water Information System (SDWIS).

- PWS#
- Name
- County
- Population Served
- Service Connections

Capacity information can be added by water system:

- Design capacity
- Average demand
- Maximum daily demand

System Location

Knowledge of the location of water system components is critical for accurate and timely response in an emergency. A description and/or map of water system components should include:

Water sources

Treatment facilities

Pump houses

Storage reservoirs

Transmission lines

Distribution lines

Key valves

Electrical power connections

Communication systems

Telemetry

Computer systems

Water system source locational information is auto populated and can be updated on this page

Responsible Persons

Primary Contact

- Serves as lead for emergency events
- Responsible for managing the emergency and making key decisions
- Lead person will assess the situation and initiate a series of response actions based on the type and severity of emergency.

Secondary Contact

- Should the primary contact be unavailable, serves as lead contact.
- Assist the primary contact with phone calls, customer contacts, information to public and media, assessing system facilities and repairs.

Potential Emergency Situations And Threats

Why do emergencies happen?

- Natural disasters
- Accidents
- Acts of Vandalism or Terrorism
- System neglect or deferred maintenance

An emergency may affect the entire water system or only isolated sections

Potential Events That Cause Emergencies

- Security Threats
- Bacterial Contamination
- Chemical Spill
- Power Outage
- Pump Failure
- Treatment Failure
- Flood
- Fire
- Drought
- Freezing
- Windstorm
- Earthquake
- Depressurization
- Transmission Line Break
- Loss of Water

Emergency Procedures

With procedures in place before an emergency, water system staff can take appropriate actions to protect public health and reduce system damage.

Suggested policies, programs and procedures to have readily available:

- System specific emergency disinfection procedures
- System specific flushing program
 - Conventional Flushing
 - Uni-directional flushing
- Personnel Safety Plan
- Operation and Maintenance Manual
- Asset Management Plan
- Distribution System Map

Emergency Procedures

- Pressure Boundary Map
- Overall Process Flow Diagrams
- Site Plans and Facility “As Built” Engineering Drawings
- Sample Site Plan(s)
- Site Staffing Rosters and Employees’ Duties and Responsibilities
- Chemical Handling and/or Storage Facility
- Other

Emergency Meeting Location

An emergency meeting place is identified for water system staff to meet when communication methods may become unavailable. Alternate communication methods may be important in the event of an emergency where communication lines may be impacted.

Identify the primary meeting place in the event of an emergency.

Contact List

Prepopulated information for water system contacts is provided from SDWIS.

Public Water System Contacts include:

- Administrative contact
- Designated operator in charge
- Emergency contact
- Financial Contact
- Owner
- Sampler
- Legal Contact

Emergency Personnel Contacts

- Fire/Medical/Police
- State Comm
- County Emergency Management

Regulatory Agency Contacts

- DEQ Regional Office
- District Health Department

Contact List

Service & Repair Contacts

- ▣ Dig Line
 - ▣ System engineer or consultant
 - ▣ Electrician
 - ▣ Electrical Utility
 - ▣ Portable Electrical Generator
- Plumber and Pump service
 - Excavation Contractor
 - Water Testing Laboratory
 - Equipment Rental
 - First Aid supplies

Media Contacts

- ▣ Radio
- ▣ Television
- ▣ Newspaper

Chain of Command

A “chain-of-command” list identifies who is responsible for making decisions during emergencies. This eliminates confusion and reduces emergency response time.

Responsibilities may include:

- Notifying law enforcement and regulating agencies
- Notifying system customers
- Assessing system facilities and operations in the field
- Procuring alternative water sources
- Making repairs or notifying an appropriate contractor
- Taking samples
- Talking with the public or media
- Handling phone calls and providing administrative support
- Notifying law enforcement
- Notifying county EMS

Public Notification

The emergency response plan identifies who is responsible for notifying customers, how customers will be notified, and under what circumstances they will be notified.

Public notifications must include:

- A description of the violation or situation
- When the violation or situation occurred
- Potential adverse health effects
- At risk population(s)
- Whether alternative supplies should be used
- Actions consumers should take
- System actions to correct violation or situation
- Expected date of return to compliance
- Name, address, and phone number for additional information

Public Notification

Delivery of Customer Notification

- ❑ Phone Calls (Include location of phone list)
- ❑ E-mail (Include location of email list)
- ❑ Media release
- ❑ Door to Door
- ❑ Other

Public notification requirements identified by the regulating agency in response to an emergency situation or violation are assigned to one of three categories based on risk of adverse health effects.

Public Notification

Water systems should work with DEQ to determine the level of public notification required.

- ▣ Tier 1 – significant potential for serious adverse health effects on human health as a result of short-term exposure. Is required to be issued as soon as practical but no later than 24 hours after the water system learns of the situation.
- ▣ Tier 2 – potential to cause serious health effects. Required to be issued as soon as practical but within 30 days. Repeat notice every 3 months until violation or situation is resolved.
- ▣ Tier 3 – applies to all other violations and situations not included in Tier 1 and Tier 2. Required to be issued within 12 months and repeated annually for unresolved violations.

Responsible Actions for Specific Events

A detailed response plan identifies specific actions for water systems to take for each type of emergency event.

Actions should include:

- Damage assessment
- Troubleshooting
- Contacting the regulating agency
- Contacting needed repair services
- Flushing the system and disinfection.

Actions should be based on the type of event (vandalism, terrorism, contamination, natural disasters, etc.)

Alternative Water Sources

Retail Bottled Water Providers

- Grocery stores
- Convenience Stores
- Water cooler and filtration companies
- Certified Potable Water Trucks

Alternate water supplies can include emergency sources. Emergency sources are defined as sources the water system may use when the primary and seasonal sources cannot meet demands and are used only for emergency purposes.

Interconnections that can be established with an approved water supply.

Contact DEQ to obtain approval to use an emergency source.

Curtailing Water Use

Prioritizing Water Use during Emergency Restrictions:

- Services and uses determined less critical to public health and safety will be suspended for a period determined by the PWS.

	Use Advisory	Priority Use	Prohibited Use
Level 1: Minor contaminants – follow Health District recommendations	Boil Order, or other treatment dependent upon nature of the contaminant. Follow Health District recommendations.	Drinking Water Yard and other uses	Boil Order or other treatment for domestic uses No restrictions
Level 2: Reduced supply due to source closure or limitation (including drought)	Watering Restriction Notice	Drinking Water Limited yard and other uses	Yard or garden use by scheduled watering hours <u>ONLY</u>
Level 3: Reduced supply due to source closure or limitation (including drought)	Water Restriction Notice	Drinking Water	<u>NO OUTSIDE WATER USE</u>
Level 4: Serious hazard affecting water source	Bottled Water <u>ONLY</u> Notification of all media outlets		<u>NO DOMESTIC USE</u>
Level 5: Serious environmental and health hazard affecting water source	Bottled water <u>ONLY</u> No physical contact Notification of all media outlets	<u>NO USE ALLOWED</u>	<u>ANY USE OR CONTACT PROHIBITED</u>

Questions?