

State Drinking Water Program All-Hazards Preparedness, Mitigation, Response and Recovery Checklist

The purpose of this document is to provide state drinking water programs (DWP) with a checklist of actions that should be considered before, during and after an emergency. Whether your program is well advanced in emergency planning and response or does not currently have any protocols in place, this document can provide useful internal checklists and best practices across the four principal components of emergency response – preparedness, mitigation, response and recovery.

Primacy Agency Emergency Program Management Checklists

Primacy agencies must consider their own actions within an appropriate context if they are to be well positioned to support the needs of their water systems in times of crisis. The information provided in the checklists below contain recommended actions that every state DWP should be able to undertake and implement (both within their own programs and in support of their utilities) to support and sustain public health protection.

Preparedness

Preparedness activities are any actions taken prior to the emergency that facilitate the implementation of a coordinated response.

- Develop a DWP emergency response plan that includes the following elements:
 - Identify and list clear roles and responsibilities of staff (what are the expectations of staff during an emergency incident). Include staff assignments and reporting procedures. Establish pre-authorizations to request and provide assistance.
 - Develop personnel procedures during emergencies (need for alternate location, reporting to work, notifying staff at home, etc.).
 - Develop an emergency response team that includes enough trained staff to be three deep.
 - Develop a Continuity of Operations Plan (COOP) plan to provide detailed information needed to facilitate preparation and response actions to disruption of operations.
 - Develop lists of activities (see example provided in this document) and prioritize functions.
 - Develop tracking sheets to track water system status and DWP actions.
 - Establish State Emergency Operations Center (EOC) representation.
 - Train staff on the DWP emergency response plan and corresponding emergency response concepts (NIMS - National Incident Management System and ICS - Incident Command System).
- Prepare go-kits (flash drives with key information such as water system contact information; staff contact information, important forms, etc.). Save flash drives at alternate locations (like the State EOC and homes of key staff).

Mitigation

Mitigation activities are any actions taken to prevent or reduce the occurrence of any emergency or risk to human life and property.

- Become familiar with available hazard mitigation funding opportunities through your state emergency management agency and by checking out EPA's Fed FUNDS tool.
- Make sure grant funding and disaster reimbursement announcements are being received by you and your water systems.
- Conduct appropriate public education and outreach concerning funding opportunities for mitigation projects at your water systems.

Response

Response includes activities to address the immediate and short-term goals to preserve life, property, the environment and the social, economic and political structure of the community. Response also includes the execution of emergency response plans and incident mitigation activities.

- Refer to additional information in Incident-Specific Response Checklists (see next page).
- Send out pre-incident advisories to staff and water systems when possible through email, autodial phone message, press release, etc.
- Activate emergency response plans. Notify staff of response assignments and require check-in and check-out procedures with contact information.
- Track water system operational status.
- Provide coordination assistance with WARN and the Emergency Management and Assistance Compact (EMAC) processes.
- Coordinate with other partners such as Rural Water, Water Works Associations, Rural Community Assistance Partnership (RCAP), etc.
- Activate role at State EOC to provide coordination and other services to support the response to water utilities.
- Document all costs incurred in carrying out emergency operations including state staff time and resources. Include a written log of messages, decisions and directives.
- Ensure safety procedures/protocols for staff in the field.
- Participate in the release of departmental emergency public information.
- Assist in assessing and reporting damages.
- Assist in establishing alternate water supplies and advise on water quality monitoring (if necessary).

Recovery

Recovery involves actions needed to help individuals and communities return to normal. Recovery programs are designed to assist victims, restore operations and rebuild destroyed property. Recovery actions often extend long after the incident itself and include mitigation components designed to avoid damage from future incidents.

- Advocate for/partner with utilities on risk communication and restoration of public confidence.
- Forward announcements of FEMA Public Assistance and other funding assistance to water systems.
- Identify and track system needs and take appropriate mitigation measures.
- Follow up on damage assessment and debris management.
- Follow up on necessary permitting, decontamination and sampling determinations.
- Hold after-action meetings. Determine lessons learned and develop improvement plans to make appropriate policy/procedure adjustments.

Mentoring

The following drinking water primacy agencies have volunteered to be contacts for further information and guidance:

NH DES Drinking Water and Groundwater Bureau
Johnna McKenna
 603-271-7017, johnna.mckenna@des.nh.gov

Utah Drinking Water Program
Kim Dyches
 801-536-4202, kdyches@utah.gov

Maine Drinking Water Program
Sara Flanagan
 207-287-5678, sara.m.flanagan@maine.gov

MT DEQ Public Water Supply Program
Dusti Lowndes
 406-755-8976, dlowndes@mt.gov

Value of an Emergency Program

While states may differ in their public water supply emergency preparedness, response and partnerships, a clearly defined emergency program and response plan are key to an effective and coordinated response and recovery effort. Drinking water programs and water and wastewater systems all across the country continue to improve their resiliency through emergency plans and procedures to ensure the protection of public health in the “All-Hazards” arena. Responses to emergencies and threats are local with the potential for state and federal support. In an emergency that impacts public drinking water facilities, the DWP will be looked upon as a subject matter expert and often will be asked to assist local and state officials in resolving drinking water issues that are affecting their communities.

The DWP also has statutory authority and primary enforcement responsibilities to implement and oversee some emergency management efforts. Federal regulations and U.S. laws that directly involve primacy agencies to act or assist during an emergency include EPA’s Water Programs National Primary Drinking Water Regulations covering public notification of drinking water violations and primary enforcement responsibility as well as U.S. code covering state primary enforcement responsibility and tampering with public water systems.

Incident Specific Response Checklists

In addition to the above checklists, the following incident specific checklists can be used by DWPs to help guide their response-related activities and tracking of water system status. They are not meant to be all-inclusive. The lists of questions cover general response, natural disasters and security events.

General Response Questions Checklist

1. Record date and time of call, program staff taking the call.
2. Record name of water system and caller, address, phone number, email and PWSID.
3. Record nature of the problem (e.g., date, time, duration, location).
4. Who has been notified (customers, consecutive connections, media, other state agencies, etc.)?
5. What equipment/service has been interrupted/affected?
6. Has water quality been compromised and samples taken?
7. Is alternate water supply needed?
8. Any reports of injury or illness?

9. What actions have been taken so far? Have pre- and post-damage photos been taken?
10. Has the problem been corrected?
11. Is the system a WARN member/has WARN been notified?
12. Is follow-up required? What assistance can the DWP provide?

NATURAL DISASTERS

1. Can the damaged facility be taken offline or system portions isolated?
2. If the system is groundwater, has the well(s) been submerged?
3. Has untreated water (or any contaminant) entered the water system?
4. Has the system lost pressure or have low pressure?
5. Can another facility perform the same function?
6. How long will it take to repair?
7. Do you have power for all components of the water system? Is it from primary power or generator?
 - a. If no power:
 - i. Do you have a properly sized generator or quick connect capabilities?
 - ii. Are there any critical customers served by the system?
 - iii. How long have you been without power?
 - iv. Who is your power company?
 - v. What is the street address of water system operations, or component out of power?
 - vi. What is your restricted use plan and storage capacity?

Actions to Be Taken:

- Utilize proper drinking water advisories for immediate public notice.
- Provide technical assistance and monitoring advice.
- Coordinate power outage prioritization for water systems through state EOC.

SECURITY (INTENTIONAL/ACCIDENTAL) INCIDENTS

What type of activity has occurred? Is it physical or cyber; intentional or accidental? The separate checklists below offer targeted questions based on the identified incident type.

Physical Security Incident

1. Is contamination a possible threat to the water system?
2. Is a site characterization being conducted to determine credibility of threat?
3. Have water quality samples been collected for analysis and to confirm contamination incident?
4. Has law enforcement been notified?
5. If site is safe, has the water system and/or law enforcement investigated the facilities and have/can affected components been/be isolated?
6. If the site is not safe, has local hazmat assistance been requested?
7. Has the site and evidence been protected?

Actions to Be Taken:

(Refer to EPA "Water Security Initiative: Interim Guidance on Developing Consequence Management Plans for Drinking Water Utilities" EPA 817-R-08-001, July 2008)

- Immediately notify appropriate senior management.
- Assist in notifying local law enforcement and the Federal Bureau of Investigation (FBI) for their assistance in investigating the incident.
- Coordinate with the DWP's Public Information Officer and water system in issuing a "Water Advisory" notice.
- Report incident to the Water Information Sharing and Analysis Center (WaterISAC).
- Provide technical assistance and monitoring advice.

Cyber Security Incident

1. What computer systems have been affected and what is the concern?
2. Do you know if the threat is internal (disgruntled employee) or external (computer hacker)?
3. Have computers been disconnected from the internet and staff notified?
4. Has your IT service provider been contacted? Are they analyzing the threat?
5. Is customer information at risk?
6. Does your water system have a SCADA system?
 - a. Have any unauthorized changes been made to the SCADA system?
 - b. Are water system components and water quality data normal?
 - c. Can the SCADA system be taken offline and the water system run manually?

Actions to Be Taken:

- Encourage water system to contact their IT service provider for assistance in identifying the threat.
- Advise water system to contact law enforcement if a cyber security threat is confirmed.
- Assist in reporting the incident to the Industrial Control Systems Cyber Emergency Response Team (ICS-CERT) ics-cert@hq.dhs.gov,
- If appropriate, utilize proper drinking water advisories for immediate public notice.

Chemical Spill Incident

1. Is spill incident accidental or intentional? If intentional, see physical security incident questions as well.
2. When did the spill occur? (date, time, duration, location)
3. What material and how much was spilled?
4. Has the material been contained or what action is being taken?
5. Did any of the materials enter a body of water or source protection area?
6. Who is the primary contact for this spill incident?

Actions to Be Taken:

- Make sure appropriate State Spill Response Agency and the National Response Center has been contacted.
- Assist in notification of critical infrastructure and customers in the area.
- If deemed appropriate, issue proper drinking water advisories for immediate public notice.

Additional Information and Resources

EPA Water Security: <http://water.epa.gov/infrastructure/watersecurity/>

EPA's Water Security Initiative Consequence Management Plans Development Guidance:
http://water.epa.gov/infrastructure/watersecurity/upload/2008_10_24_watersecurity_guide_interim_cmp_wsi.pdf

EPA's FedFUNDS tool: <http://www.epa.gov/fedfunds>

FEMA NIMS: <http://www.fema.gov/national-incident-management-system>

ASDWA Security Information:

<http://www.asdwa.org/index.cfm?fuseaction=Page.viewPage&pageId=496>

ASDWA and EPA's Bridging the Gap fact sheet:

<http://water.epa.gov/infrastructure/watersecurity/emergencyplan/upload/epa817f12006.pdf>

WARN: www.nationalwarn.org

Example Response Activities List: Drinking Water Program Actions during a Possible Intentional Contamination Incident

This following figure is provided as an example and is intended to be used by state programs as a starting point when developing their response actions to an intentional contamination incident. The figure shows response actions for each phase of an intentional contamination incident including possible, credible and confirmed. The figure is not intended to serve as a detailed methodology. It can be tailored to reflect the more specific policies, protocols and procedures for any state program. Depending on the incident, some items in this chart may occur simultaneously.

Upon initial notification of a possible intentional contamination incident at a water utility...

Drinking Water Program activities:	
Possible	<ul style="list-style-type: none"> DWP activates internal Incident Management Team Support utility and appropriate response partner agencies (e.g., law enforcement, emergency management, HazMat) with threat assessment and site investigation
Credible	<ul style="list-style-type: none"> Request support from EPA response team, if needed Provide technical support for operational responses (isolation or flushing) Provide sampling and/or analysis support Assist the utility ICS communications staff to develop public notifications, if needed
Confirmed	<ul style="list-style-type: none"> Assist utility with notifications to public health and emergency management agencies Assist utility with sampling, decontamination and clearance activities Provide technical assistance for operational response and alternate water sources
Resolved	<ul style="list-style-type: none"> Assist utility with After Action Review Update public notifications with new information