

Chapter 12

Emergency Response Planning Requirements

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Acronyms used in this chapter:

BOH – Board of Health
DCR – Dept. of Conservation and Recreation
MassDEP – MA Dept. of Environmental Protection
MassDPH – MA Dept. of Public Health
MassWARN – MA Water/Wastewater Agency Response Network
MEMA - MA Emergency Management Agency
NTNC - Non-Transient Non-Community
ORS - Office of Research and Standards
PWS – Public Water System
TNC - Transient Non-Community
URTH - Unreasonable Risk to Health
VA - Vulnerability Assessments

Chapter 12

Emergency Response Planning Requirements

This information supplements information provided in the MassDEP Drinking Water regulations and Appendix O (Handbook for Water Supply Emergencies). These documents are located at <https://www.mass.gov/info-details/guidelines-for-public-water-systems>. **(Nothing in this guidance shall be interpreted as superseding the requirements of the Federal Bioterrorism Act of 2002. Vulnerability Assessments (VA), prepared pursuant to the requirements of the Federal Bioterrorism Act of 2002; and Risk and Resilience Assessments (RRA), prepared pursuant to the requirements of America's Water Infrastructure Act (AWIA) Section 2013, shall NOT be submitted to MassDEP.)**

Introduction

Public water suppliers in Massachusetts have a strong track record in maintaining good quality drinking water to consumers. However, for a variety of reasons emergencies can and do happen. Drinking water emergencies can be caused by natural disasters, intentional actions such as terrorism or vandalism, or by accidental events such as spills or equipment failure. It is critical that:

1. Emergency procedures are written down in a clear and concise manner in an easily accessible document;
2. Regular training is conducted to ensure emergency response planning procedures are followed in the event of an emergency.

This guidance is designed to clarify and update the MassDEP's emergency response planning requirements for Community and Non-Transient Non-Community (NTNC) public water systems (such as schools and daycares). This guidance is to be used in conjunction with the *MassDEP Guidelines Appendix O – Handbook for Water Supply Emergencies*.

This guidance applies to all Community water systems and all NTNC water systems, but not to Transient Non-Community (TNC) water systems. As noted in the following sections, Community and NTNC water systems are required to maintain and annually submit any changes to their emergency response plans. TNC systems are required only to annually submit an emergency contact list, since it is assumed that a TNC will immediately discontinue use of its public water supply in the event of a drinking water emergency¹. If a TNC system chooses to remain in-service during an emergency, then it must develop an emergency response plan in accordance with this guidance.

In particular this guidance includes the following components:

1. It clarifies emergency response planning requirements for Community and NTNC systems (see Section 12.1).

¹ During an emergency, a TNC that wants to continue to provide water for human consumption must seek MassDEP's approval to provide bottled water or bulk water from an approved MassDEP source. For more information on bulk water, see MassDEP Policy 92-07: Bulk Water Suppliers - Sampling Requirements and Transport Responsibility available at <https://www.mass.gov/info-details/drinking-water-policies-and-guidance>.

The TNC shall continue to provide water from such source until MassDEP has approved the facility to resume providing drinking water. If the TNC is a food establishment or provides food, it must also comply with the Mass DPH food establishment procedures and the local board of health directions for all food and sanitation. More information from Mass DPH is available at <https://www.mass.gov/lists/retail-food>. Additionally, food establishments should refer to the "Emergency Action Plan for Retail Food Establishment" to respond to emergencies, which can be found at <https://www.foodprotect.org/Guides-and-Documents>

2. It clarifies the requirements for certifying changes to a system's emergency response planning report (see Section 12.2).
3. It clarifies the requirements of the emergency response checklist that must be provided to MassDEP after each emergency incident that rises to a Level 3 or higher as defined in *MassDEP Guidelines Appendix O – Handbook for Water Supply Emergencies*. This requirement includes all Boil Water, Do Not Drink, and Do Not Use Orders (see Section 12.3).
4. It defines or describes the acute/emergency events that require specific action for:
 - a. Treatment process related parameters;
 - b. Chemicals commonly used at drinking water treatment facilities of concern in the event of an accidental release (see Section 12.4).
5. It clarifies the public notification and communication requirements (see Section 12.5).
6. It clarifies the use of backup or alternate emergency water supplies (see Section 12.6).
7. It clarifies the need to test controls and alarms quarterly (see Section 12.7).

12.1 Minimum Components of Emergency Response Plans

12.1.1 Community Water Systems

Emergency response plans shall include, but not be limited to the components described in 310 CMR 22.04 (13) and *MassDEP Guidelines Appendix O – Handbook for Water Supply Emergencies*, and the following components:

1. Detailed protocols and procedures, specific to the individual water system, to respond to emergency situations such as, but not limited to, the following:
 - a. Source contamination (chemical, biological, or radiological)
 - b. Process treatment failure(s) (ex. chemical overfeed)
 - c. Loss of power
 - d. Transmission main or storage failure(s)
 - e. Drought
 - f. Cybersecurity attack

In the event that protocols/procedures require supplemental equipment, the equipment specifications and vendor information shall be identified in the plan. These protocols and procedures must also include the command and communication structure for the response.

2. A Directory of Emergency Contacts that shall include, at a minimum:
 - a. Water operator contact(s)
 - b. MassDEP regional contact(s)
 - c. MassDEP emergency telephone number
 - d. MassDPH contact(s)
 - e. MEMA contact(s)
 - f. State Police contact(s)
 - g. A local emergency response team consisting of contacts from the board of health, public safety (fire and police), and any other appointed/elected officials deemed appropriate
 - h. Equipment suppliers/vendors
 - i. Critical customers (hospitals, schools, elderly housing, process water users)
 - j. Other government agencies (i.e., DCR–Office of Dam Safety, etc.)
3. Description of emergency operation of all system components including pumps, generators, chemical feed systems, storage tanks, alarms, valves, and interconnections
4. A Flushing Plan that shall include, at a minimum, the recommended sequence of hydrant openings or unidirectional flushing plan to flush out contaminants that may be present in the distribution system.
5. Description of levels of commonly used chemicals at drinking water treatment facilities, which if exceeded, could pose an acute risk to public health or safety (See MassDEP’s Office of Research and Standards’ (ORS) “unreasonable risk to health” (URTH) limits as set forth in the *Standards and Guidelines for Contaminants in Massachusetts Drinking Waters* (available on-line at <https://www.mass.gov/guides/drinking-water-standards-and-guidelines>)
6. Public notification/communication plan including reverse 911 plans, where available, or its equivalent
7. A list of the names and contact information for facilities with special needs such as schools, hospitals, nursing homes, and large water users
8. Procedures for implementing use of backup/emergency alternative sources and for otherwise providing alternative sources of water to customers
9. Description of interconnection(s) with neighboring water systems, including location, frequency of exercising, operational procedures, and communication with the connected water system.
10. Safety procedures (including use of personal protection equipment) and security procedures (including securing a scene or building)
11. Sampling and monitoring procedures (during and after an emergency)

12. An annual training program that will be provided to all applicable staff/operators and, where possible, other local agencies
13. Mutual Aid and MassWARN activation/participation procedures
14. Basic system information such as distribution system maps (which should include the service area of the public water system and the location of all critical infrastructure, including but not limited to treatment plants, storage tanks, and interconnections), treatment plant plans, schematic of treatment processes, and water chemistry information that reflects normal system operations

12.1.2 Non-Transient Non-Community Systems (NTNCs)

In addition to the components described in the *MassDEP Guidelines Appendix O – Handbook for Water Supply Emergencies*, and at a minimum, an NTNC must include the following in its plan:

1. A directory of emergency contacts including:
 - a. Water operator contact(s)
 - b. MassDEP regional contact(s)
 - c. MassDEP emergency telephone number
 - d. MassDPH contact(s)
 - e. Local BOH contact
 - f. The local emergency response team in the municipality where the NTNC is located
2. Description of emergency operation of all system components including pumps, generators, chemical feed systems, storage tanks, and alarms
3. While not required, NTNCs should consider developing a plan that includes:
 - a. Procedures for shut down of its water supply
 - b. Procedures for procuring alternative water supply (trucked or bottled water). See *Policy 92- 07: Bulk Water Suppliers - Sampling Requirements and Transport Responsibility* located at <https://www.mass.gov/info-details/drinking-water-policies-and-guidance>.

12.2 Certifying Updates to Emergency Response Plans for Community and NTNC Water Systems

Community and NTNC water systems should complete and submit an Emergency Response Plan Compliance Checklist if changes are made to the system's Emergency Response Plan. The checklist is available to download at <https://www.mass.gov/lists/drinking-water-permits-forms-and-templates#emergency-response-forms->. Public water suppliers should **not** submit their full Emergency Response Plan to MassDEP.

12.3 Minimum Components of Emergency Response Incident Checklist and After Action Report that Must be Provided to MassDEP After Each Level 3 or Higher Emergency.

(Incident Levels are defined in *MassDEP Guidelines Appendix O – Handbook for Water Supply Emergencies*)

Within 30 days of a Level 3 or higher emergency, an Emergency Response Incident Checklist and an Emergency Response After Action Report must be filed with MassDEP. In addition to the components described in Appendix E of the *MassDEP Guidelines Appendix O – Handbook for Water Supply Emergencies*, the public water system shall include an After Action Report that includes the following information:

1. Detailed timeline of the incident and response
2. Observations of the response to the incident and recommendations for improved emergency planning and communication
3. Copies of all public notifications
4. Recommendations for improvements to the water system to prevent future occurrences, including identifying funding sources and timeline for such improvements
5. An updated emergency response plan, if needed, except for those items that are security sensitive; or, an updated Emergency Response Plan Compliance Checklist

The Emergency Response Incident Checklist, After Action Report, and Emergency Response Plan Compliance Checklist are available to download at <https://www.mass.gov/lists/drinking-water-permits-forms-and-templates#emergency-response-forms->.

12.4 Treatment Process Related Parameters and Levels of Commonly Used Chemicals at Water Treatment Facilities Representing an Acute Risk

Any major accidental release of chemicals used at drinking water treatment facilities has the potential to create an emergency condition. More specifically, MassDEP has determined that drinking water treatment chemicals at or above “unreasonable risk to health” (URTH) limits set forth by MassDEP’s Office of Research and Standards (ORS) could pose a potentially acute risk to public health or safety, even if the levels are exceeded for a short period of time. Such levels can potentially occur in water in the distribution system due to equipment problems, spills, or back-siphonage events due to mechanical problems with equipment such as alarms, meters, and backflow protection devices.

Bacterial levels traditionally associated with boil orders can also result in an acute health risk. For additional information, refer to the MassDEP policy *DWP 87-06 Boil Water Orders or Do Not Drink Orders*, see MassDEP’s website: <https://www.mass.gov/info-details/drinking-water-policies-and-guidance>.

If one or more of the commonly used chemicals set forth by MassDEP ORS in the *Standards and Guidelines for Contaminants in Massachusetts Drinking Water* (available on-line at <https://www.mass.gov/guides/drinking-water-standards-and-guidelines>) enters into or is discovered in the distribution system at the “unreasonable risk to health” (URTH) limits specified by MassDEP ORS, the PWS must consider the situation an emergency and **immediately** implement its emergency response plan.

A public water system that identifies the malfunction of the following treatment processes must consider

the situation an emergency and immediately implement its emergency response plan:

1. Any failure of the disinfection, filtration, or coagulation component of the treatment process at plants that treat surface water or ground water under the direct influence of surface water.

12.5 Notification to MassDEP During Drinking Water Emergencies

In order to protect public health and in accordance with MGL Chapter 111 Section 160, MassDEP has established the following notification requirements for drinking water emergencies:

1. Depending on the type of emergency, a public water system must notify MassDEP within either 2 hours or 24 hours of the system obtaining knowledge of a potential or actual emergency by calling their MassDEP Regional Office (during working hours) or MassDEP's 24-hour emergency notification telephone number at 1-888-304-1133. Potential or actual emergencies requiring 2-hour notification are identified in 310 CMR 22.15(9)(b)1. Other potential or actual emergencies requiring 24-hour notification are identified in 310 CMR 22.15(9)(b)2.
2. A public water system must notify the public of all emergencies that include violations of the MassDEP Drinking Water Regulations. If a "Do Not Drink," "Boil Water," or "Do Not Use" notice is required, the public notice process should be initiated immediately upon determination by MassDEP, local public health authority, or emergency authority; the process must comply with the public notification and reporting requirements of 310 CMR 22.00. Samples of these template notices are on MassDEP's website at: <https://www.mass.gov/lists/public-notification-forms-and-templates>.
3. A public water system must distribute public notices to all consumers impacted by an emergency. This may include consumers outside of the public water system's town boundaries if the public water system serves residents in neighboring communities. Public water suppliers must include in their public notices and other communications specific information about the service area impacted by the emergency, especially if part of the service area is located in neighboring communities. For example, the public water system should mention any specific streets, housing developments, or other related residential areas outside of their town boundaries that are affected by the emergency. This can prevent misunderstandings that an entire neighboring town is affected by the emergency in the public water system's specific town.
4. MassDEP strongly recommends that public water suppliers have all public notice templates and outreach materials prepared and pre-approved as part of their emergency response plan so that in an emergency, these resources can be quickly customized and disseminated to all relevant parties.

12.6 Use of Emergency Sources and Interconnections

During a drinking water emergency, which requires use of additional sources, the following shall apply:

1. Prior to using an **unapproved source** (emergency, abandoned, or source not classified by MassDEP), the public water system must request and obtain a Declaration of a State of Water Supply Emergency from MassDEP. MassDEP may verbally authorize a water supply emergency when it is determined that the protection of public health requires an immediate Declaration of a State of Water Supply Emergency.

2. Prior to obtaining water from an emergency interconnection to any other public water system, via an existing piped interconnection or a hydrant-to-hydrant connection, the public water system requesting use of the interconnection must obtain approval from the donor public water system and must notify the local authorities and MassDEP.
3. Prior to obtaining water from an emergency interconnection to a public water system that is a consecutive system to a parent system, the public water system requesting use of the interconnection must obtain approval from both the donor public water system and the parent public water system and must notify the local authorities and MassDEP. *E.g., If during an emergency you need water from an MWRA consecutive system you must notify and seek approval from both the system and MWRA.*

12.6.1 Mapping of Interconnections

In accordance with 310 CMR 22.19(6), all public water suppliers are required to develop, update, and maintain distribution system maps and any relevant associated databases of their water system's distribution system that include locations of wells, surface water intakes, treatment facilities, pumping stations, storage tanks, hydrants, sample collection points and other relevant information such as piping materials, pipe sizes, direction of flow, and pressure zones. A public water system's distribution system maps should also include the location of the public water system's interconnections.

12.7 Testing of Controls and Alarms

All facilities that have chemical feed systems that might impact public health or exceed a federal or state standard in the event of an overfeed or underfeed must be equipped with an electrical interlock as well as a flow switch or flow pacing mechanism. These facilities shall be equipped with adequate alarms to notify the operator of such an event. The alarms and interlocks shall be tested quarterly.

A Water Treatment Chemical Feed System Control and Alarm Testing Log is available at <https://www.mass.gov/lists/drinking-water-permits-forms-and-templates#emergency-response-forms->.

12.8 Suggested Additional Resources

The *Emergency Response Planning Guide for Public Drinking Water Systems* provides information about important emergency response planning elements and a template for developing an Emergency Response Plan. The guide is available at <https://www.mass.gov/lists/emergency-response-for-public-water-systems#emergency-response-plan->.