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## Issuance and Removal of Boil Water Orders

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In accordance with Massachusetts General Laws Chapter 111, Section 160, "the department may ... make rules and regulations and issue such orders as in its opinion may be necessary to prevent the pollution and to secure the sanitary protection of all such waters used as sources of water supply and to ensure the delivery of a fit and pure water supply to all consumers." The MassDEP policy 87-06, *Boil Water Orders, Do Not Drink Order, Do Not Use Orders* located at <http://www.mass.gov/eea/agencies/massdep/water/regulations/policies-and-guidance-documents.html>, describes the procedures used when, in the judgment of the MassDEP, a Boil Water order may be issued to respond to a threat to the public from the presence of or probable presence of pathogenic microorganisms in a public water system.

If you have questions on this information or need to issue a BOIL WATER order please contact [your regional MassDEP office](#):

During Business Hours		After Business Hours/Weekends/Holidays
Region	Phone Number	MassDEP 24 hour emergency number
Western	413-784-1100	1-888-304-1133
Central	508-792-7650	
Northeast	978-694-3200	
Southeast	508-946-2700	
Boston	617-292-5770	

The MassDEP Drinking Water Program uses the following minimum procedures when deciding to issue a BOIL WATER Order:

### I. Deficiencies Requiring Boil Water Order

1. Acute bacteria violation (fecal and/or E. Coli present – issued after confirmation samples are taken) or repeated non-acute bacteria violations.
2. Turbidity MCL violation (turbidity above 5.49 NTU)
3. Unchlorinated surface water entering system from an approved source.
4. Unfiltered surface water entering system from an emergency, back-up or other unapproved sources
5. System without water or with negative pressure zones. (For more information see MassDEP guide to public water system response to loss of pressure to all or part of the distribution system).
6. None or inadequate disinfection on a system that is required to disinfect.
7. Dead animals (mice, rats, birds, etc.) observed in an unchlorinated groundwater source.
8. In lieu of routine bacteria sampling where chronic contamination has occurred or is suspected.
9. Equipment failure resulting in inadequate disinfection and/or filtration of a surface water, or ground water under the influence of surface water supply, when the equipment is not immediately repairable.

## II. Providing Public Notification

When a Public Water System is issued a Boil Water Order the system shall immediately notify the local Board of health and consumers of its issuance. Notification shall be made with the attached Boil Water Order notice or other notices generated by the MassDEP. Any modifications to the notice must be approved by the MassDEP prior to distribution. Notification may be made through radio, television or a daily newspaper for community systems where hand delivery is impractical. In some instances the MassDEP or US Environmental Protection Agency (EPA) may require additional and other types of public notification.

## III. Removing a Boil Water Order

### 1. Correction of Deficiency

A boil water order can be removed from a public water system when MassDEP determines that correction of deficiency and satisfactory sampling is completed.

Boil Water Order Deficiency Correction Chart	
Deficiency	Minimum Corrective Action
Acute bacterial violation	Establish or reestablish disinfection and maintain residuals.  When the existing or potential microbiological contamination cannot be attributed to a specific correctable incident, the supplier should be directed to implement a cross connection survey and initiate symptomatic treatment procedures including, but not limited to, increased disinfection and flushing.  For persistent microbiological system failures see Sampling Duration information below.
Turbidity MCL Violation	Turbidity drops to acceptable levels throughout system.
Unchlorinated surface water entering the system	Reestablish disinfection
Unfiltered surface water from an emergency source.	Suspend use of emergency source.
System without water or negative pressure	Reestablish service and maintain positive pressure. If directed by MassDEP perform cross connection survey and <i>initiate symptomatic treatment procedures including, but not limited to, increased disinfection and flushing.</i>
No chlorination on system with repeated non-acute bacteria violations	Reestablish chlorination.
No disinfection on a system that is required to disinfect	Reestablish disinfection
Dead animals in groundwater source	Removal of remains and disinfection of the system.

Order used in lieu of sampling.	Reestablish sampling.
Equipment failure.	Repair or replacement of equipment.

## 2. Boil Water Order Samples

The Boil Water Order samples noted below must be taken on the same day, at separate locations, when possible. The samples taken must be representative of the distribution system affected by the Boil Water Order and must all be negative for total coliform bacteria in order to remove the Boil Water Order.

The required number of samples taken to lift a "Boil Order" shall be determined by the DWP and, at a minimum, correspond to the population requirement of the Total Coliform Rule (TCR) but in no case shall be fewer than three. Population determination for the Boil Water Order shall be based upon the affected area of the Boil Water Order.

<b>Population Served</b>	<b>No. of Samples (for ground or surface water)</b>
25-1000	3
1001-2000	4
2001-3000	5
3001-4000	6
4001-5000	7
5001-7500	8
7501-9999	9
10000 or more	10

### Sampling Duration for Incident Specific-Microbiological

When the existing or potential microbiological contamination can be attributed to a specific incident (such as a pipe break, equipment failure, etc.) and the supplier has taken appropriate corrective actions, two consecutive days of compliance with the MCL for bacteria is generally sufficient to confirm that a threat to public health no longer exists. When the potential microbiological contamination cannot be attributed to a specific incident (such as a pipe break, equipment failure, etc.) and the supplier has taken appropriate corrective actions, three consecutive days of compliance with the MCL for bacteria is generally sufficient to confirm that a threat to public health no longer exists.

**Sampling Duration and other actions for Short Term Microbiological System Failures**

When the existing or potential microbiological contamination cannot be attributed to a specific correctable incident and lasts for several days or weeks, the supplier will be directed to implement a cross connection survey and initiate symptomatic treatment procedures including, but not limited to, increased disinfection and flushing. When the system responds positively to these procedures within three weeks, two weeks (at least eight monitoring days) of compliance with the MCL for bacteria is generally sufficient to confirm that the threat to public health no longer exists.

**Sampling Duration and other actions for Persistent Microbiological System Failures**

When the existing or potential microbiological contamination cannot be attributed to a specific correctable incident and lasts for several weeks, and a cross connection survey and symptomatic treatment procedures including, but not limited to, increased disinfection and flushing have been completed and the contamination is not resolved, a persistent microbiological system failure is occurring. The MassDEP recognizes that coliform bacteria can colonize public water supply distribution systems. Experience has shown that such situations are very complex, difficult to correct, and frustrating. The risk is two-fold: first that pathogenic organisms may be present, and, second that high background levels mask the ability to use the coliform test to monitor for specific contamination incidents such as cross connections. In these cases speciation is required after three weeks of experiencing these problems, or as specified by the drinking water section chief. MassDEP will review the speciation results and make a determination as to the type of contamination and its impact on public health. If necessary MassDEP will convene the Special Interagency Task Force on Microbial Contamination of Drinking Water Systems in accordance with MassDEP policy 87-06, Boil Water Orders, Do Not Drink Order, Do Not Use Orders.