



BOIL WATER NOTICES

Fact Sheet for Public Drinking Water Suppliers

This fact sheet will help public drinking water suppliers recognize when a boil water notice is needed and what their responsibilities are under State and Federal regulations.

Protect your Customers

Public drinking water suppliers are responsible to make sure the water they deliver to the public is safe to drink. When there is reason to suspect that water delivered to the public could be contaminated with disease causing organisms, a boil water notice may be necessary. Timely distribution of accurate, understandable information is essential for your customers' protection and is required by State and Federal regulation. Attached are Frequently Asked Questions (FAQs) that can help utilities meet the public need and remain in compliance with regulatory requirements.

Prepare

Public drinking water suppliers need to be prepared so that effective boil water notices can be issued quickly to the public, local officials, consecutive (purchasing) water systems, and critical water customers. Pre-prepared boil water notices and up to date contact information are key items that will help water suppliers complete this notification. These items must be in the water supply emergency plans that are required for community water systems that serve 3,300 or more people, and are highly encouraged for all other water suppliers.

Consult with your Local Health Department

When conditions arise that indicate a public health hazard may exist or be imminent, public water suppliers are required to consult with their Local Health Department. Conditions that warrant a boil water notice are considered a public health hazard. The Health Department will help determine whether a public health hazard is present and provide guidance on appropriate actions. In many cases a boil water notice can be avoided by immediate corrective action. This could include changing water sources, altering treatment, opening interconnections, isolating water quality problems, using storage, etc. For very small water suppliers, especially non-community systems, this may also include temporarily shutting down until water conditions are acceptable. If consultation determines that a boil water response is necessary, the water supplier must distribute a boil water notice to its customers within 24 hours of learning of the conditions that pose the public health hazard. This makes it necessary to consult with the Health Department as soon as possible once these conditions are identified.

Meet the Requirements

It is not a simple matter to fully meet public need and regulatory requirements when issuing a boil water notice. Notifications to the Health Department and to the public must meet the requirements found in State Sanitary Code at 10NYCRR SubPart 5-1.77 and 5-1.78, available online at: <http://www.health.state.ny.us/nysdoh/phforum/nycrr10.htm>

BOIL WATER EVENTS

Frequently Asked Questions from Drinking Water Utilities

Answers to the following questions are found in this FAQ:

- Q1 - What is the difference between a boil water order, a notice, and an advisory?**
- Q2 - Why does the Health Department require boil water notices?**
- Q3 - How do I know when a public health hazard warrants a boil water notice?**
- Q4 - Should I contact my local Health Department?**
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- Q24 - Who can lift the boil water notice?**
- Q25 - How do I notify my customers when the boil water notice has been lifted?**
- Q26 - How should I handle consumer questions about the boil water event?**
- Q27 - Does issuing a boil water notice mean my utility is in violation?**
- Q28 - Once the boil water event has ended, what else do I need to do?**
- Q29 - Do I need to report boil water notices in my Annual Water Quality Report?**

BOIL WATER EVENTS

Frequently Asked Questions from Drinking Water Utilities

Q1 - What is the difference between a boil water order, a notice, and an advisory?

A "boil water order" is a directive from the Health Department to the public water supplier, requiring the water utility to in turn issue a boil water notice to its customers. A boil water order can be in the form of a letter, e-mail, facsimile or even verbal communication followed by written confirmation.

A "boil water notice" is the public notification issued by utilities informing the public of a need to boil water and providing other information that the public needs.

A "boil water advisory" is essentially interchangeable with a boil water notice. Some people consider an advisory more precautionary than a boil water notice, but both a notice and an advisory can be written in precautionary terms and there is no real difference.

A boil water notice and boil water advisory serve the same purpose, to inform the public of the need to take precautions, and both must meet the requirements for Tier 1 public notifications found in the State Sanitary code at 10NYCRR SubPart 5-1.78.

Q2 - Why does the Health Department require boil water notices?

Boil water orders and notifications are issued in response to the presence of a public health hazard. These are required to protect public health when treated water is found to be unsafe for public consumption, **or** when there is adequate reason to believe that the water may become unsafe. Boil water orders and notices are often issued in response to an exceedance of microbiological standards. A boil water order and notice may also be issued to address conditions that create a potential for biological contamination, from simple waterline breaks to more complex matters such as interruption of treatment, uncontrolled back flow events, power outages, and floods.

Q3 - How do I know when a public health hazard warrants a boil water notice?

It is not always clear when a boil water notice is needed. Consultation with the Health Department will help public water suppliers make this determination.

Boil water notices are used to address public health hazards posed by the possibility of microbiological contamination. This may be in response to known microbiological contamination, or as a precaution when conditions pose a threat of microbiological contamination. Boil water notices should **NOT** be used as a response to high levels of chemicals in drinking water, nor for water that is heavily contaminated with sewage.

Conditions that may warrant a boil water notice include, but are by no means limited to:

Acronyms Used

FAQ - Frequently Asked Question

NYCRR - New York Code of Rules and Regulations

USEPA - United States Environmental Protection Agency

- Use of an unapproved water source, or a contaminated source is used without proper treatment
- Disinfection is inadequate to destroy or inactivate harmful bacteria
- Significant deficiency exists that could lead to microbiological contamination
- Presence of *Escherichia coli* (*E. coli*) in finished water
 - when confirmed by repeat sample
 - upon first detection when any other information indicates water may be unsanitary
 - upon failure to test for *E. coli* after positive total coliform repeat sample
- Presence of fecal indicators in raw groundwater at systems that do not provide 4-log treatment
- Ongoing or widespread exceedance of the maximum contaminant level for total coliform in finished water
- Ongoing occurrence of low level pathogens in finished water, including *Cryptosporidium* and *Giardia*, for which there is no set maximum contaminant level
- Disruption of water service that creates a potential for microbiological contamination, including but not limited to;
 - depressurization or low pressure over a large area, affecting a large number of people, or in distribution areas without adequate back flow protection
 - waterline break at a location with known sewage contamination or subsurface disposal
 - disruptions lasting more than 4 hours
- Cross connection or back flow incidents that create the possibility of microbiological contamination
- Raw sewage spills or uncontrolled sewer overflows that could overwhelm treatment capacity
- Turbidity exceedances in finished water that pose an imminent threat to public health

Public water suppliers are advised to consult with their local Health Department office when there is any question about the possibility of microbiological contamination, regardless of cause.

Q4 - Should I contact my local Health Department?

Yes, absolutely! Not only is it a legal requirement, but when condition arises that may pose a public health hazard, your local Health Department is your best ally to help you identify and address public health concerns. 10NYCRR SubPart 5-1.77 requires that you notify the Health Department within 24 hours of learning of the existence of a possible health hazard, and that you provide at least the following information:

- description of the violation or situation (including contaminant information if applicable)
- when the violation or situation occurred
- what your utility is doing to correct the violation or situation
- when your utility expects to return to compliance

Once a boil water notice is issued, public water suppliers should keep the Health Department apprised, and must also consult with the Health Department to decide when a boil water notice can be lifted.

Q5 - What should I do if I might need to issue a boil water notice on the weekend?

The need to protect public health does not stop on weekends or holidays. As an owner or operator of a public water system you are obligated to react. If you delay until a more convenient time, you may put your customers' lives and health at risk.

Local Health Department offices and the State Department of Health have emergency contact numbers for just this sort of problem. Local Health Department contact information is online at: http://www.nyhealth.gov/environmental/water/drinking/doh_pub_contacts_map.htm

Contact your local Health Department first, and if you are unable to get a response, you should contact the State Health Department Duty Officer at phone (866) 881-2809.

Q6 - Will I need to issue a boil water notice for a water disruption less than 4 hours long?

Public water suppliers are advised to consult with their local Health Department even if a water disruption lasts for less than 4 hours.

10NYCRR SubPart 5-1 defines a water disruption that lasts 4 hours or more as a public health hazard. But SubPart 5-1 also defines a public health hazard as any condition determined by the Commissioner to present an existing or imminent condition which can be responsible for or cause illness and for which immediate corrective action is required. The Health Department may determine that service disruptions less than 4 hours long pose a possible public health hazard and warrant a boil water notice. Conditions that may factor into this determination include but are not limited to: population affected; cause of disruption; degree of depressurization; location of waterline break; presence of sewage or sewage disposal units; adequacy of disinfection; presence or absence of an effective cross connection control program; and history of water quality problems.

Q7 - Who must follow a boil water order and a boil water notice?

Water utilities must follow a boil water order if one has been issued to them.

A boil water notice issued as result of a boil water order must be followed by facilities regulated by the Health Department (restaurants, hospitals, nursing homes, medical offices, day care centers, children's camps, hotels, etc.). The Health Department recommends that every customer in the area covered by the boil water notice follow the directions provided by the notice.

Q8 - Who at my utility is authorized to issue a boil water notice?

Any certified operator or administrator of your water utility can issue a boil water notice. For utilities with many employees, it is advisable to designate the individual(s) with this responsibility as part of emergency preparedness planning. The utility representative that issues a boil water notification must be sure that they understand and follow the Tier 1 public notification requirements so that they do not inadvertently create a violation for your utility.

Q9 - How do I provide the public notification?

A boil water notice is a Tier 1 public notification and must be provided in a form and manner reasonably calculated to reach all persons served in the required time period. 10NYCRR SubPart 5-1.78(c) requires the water utility to use one or more of the following forms of delivery:

- appropriate broadcast media such as radio, television and reverse 911
- posting the notice in conspicuous locations throughout the affected service
- hand delivery of the notice to persons served by the water system, or
- another delivery method approved in writing by the State.

It is important to reach as many customers as reasonably possible at the outset of any boil water event. Public water suppliers should consider, or may be directed to distribute the boil water notice using more than one form of delivery, especially if the boil water notice covers a large area, or if a large number of customers may be impacted.

If the duration of your boil water notice extends beyond 24 or 48 hours, you should also consider distributing repeat notices providing reminders to boil, and status updates.

Boil water notices must be formatted in a way that meets the purpose of the notice, and must not contain very small print. If you serve a large proportion of non-English speaking consumers, the notices must contain information in the language(s) appropriate for your customers.

Because boil water notices can, with Health Department approval, be confined to the area around a specific incident such as a water line break, some utilities find it very effective to have pre-printed handouts and door hangers that can be hand delivered by repair crews.

Q10 - How soon must I send the boil water notice?

10 NYCRR SubPart 5-1.78(c) requires a Tier 1 notification to be issued within 24 hours of learning of the hazard. This regulation also requires consultation with your local Health Department within this same 24 hour period. We recommend consulting immediately with your local Health Department whenever a questionable situation arises so that you can issue a boil water notice as soon as possible upon determining your drinking water may be unsafe.

Q11 - Who do I send the boil water notice to?

10 NYCRR SubPart 5-1.78 requires notification to the following:

- all customers in the affected service area
- consecutive public water systems (i.e. water utilities that purchase treated water from you)
- the chief administrative or elected official of each municipality in the affected service area
- the local law enforcement department(s) having jurisdiction in the affected service area

Q12 - Should I send boil water notices to all the customers I serve?

Not necessarily. The notification may be limited to part of your service area if the affected area can be clearly identified, is physically or hydraulically separate from the rest of your service area, and if you obtain written permission (e-mail is acceptable) from your local Health Department.

Q13 - Are there critical water customers that I should inform directly?

Customers that rely on the public water supply and provide critical public services or serve vulnerable subpopulations must be identified and considered when implementing a boil water response. Public water suppliers need to identify critical customers served by the utility and maintain up to date contact information. Obviously this is best done in advance as part of routine emergency preparedness planning.

Critical customers may include: hospitals and other emergency medical facilities, residential medical care and assisted living facilities, schools, day care facilities, incarceration facilities, and consecutive water systems. Manufacturers that rely on adequate water quality to produce ingestible products (food, ice, pharmaceuticals, etc.) may also be considered critical customers.

Q14 - Am I responsible to notify the customers of water utilities that purchase my water?

No. You are only responsible to notify each purchasing water system that receives your water. Once notified, each purchasing system is then responsible to notify its customers, elected officials and law enforcement. You should however, make it clear to the purchasing systems that you are not notifying their customers directly, and that this is their responsibility.

Some larger water suppliers may have an arrangement with purchasing systems that allows or requires them to communicate with the customers of the purchasing system. In cases like this, both water systems must make very sure there is no confusion. There should be a written agreement that clearly spells out who is responsible to issue boil water notices or any other required public notification.

Q15 - What does the boil water notice need to say?

Each incident will require tailored language, and there are also specific content requirements for boil water notices. 10NYCRR SubPart 5-1.78(b) lists the content that must be in Tier 1 public notifications and this applies to boil water notices. Water suppliers need to review this regulation for their own understanding, but generally boil water notices must include 11 information items:

- (i) description of the situation leading to the boil water notice, including area(s) affected, contaminant of concern and contaminant level (if applicable)
- (ii) when the situation occurred
- (iii) potential adverse health effects, including standard health effects language (if needed) ¹
- (iv) the population at risk, including vulnerable subpopulations
- (v) whether alternative water should be used
- (vi) actions consumers should take, including directions for boiling water and when to seek medical help
- (vii) what the water supplier is doing to correct the situation
- (viii) when the need to boil water is expected to end
- (ix) phone number for the water supplier where the public can obtain additional information
- (x) phone number for the local Health Department
- (xi) statement in notices (if distributed by mail or direct delivery) asking recipients to further distribute the notice to other persons served

¹ Under item (iii), standard health effects language is required if the boil water notice was caused by an exceedance of a maximum contaminant level, a treatment technique violation or involved violation of a condition of a variance or exemption. Standard health effects language is available from the State through your local Health Department.

Content must be provided in clear, non-technical language. If you serve a large proportion of non-English speaking consumers, the notices must contain information in the language(s) appropriate for your customers.

Q16 - How long should water be boiled to make it potable?

Drinking water needs to be brought to a FULL ROLLING BOIL for at least TWO MINUTES and then COOLED BEFORE USE.

Boiling is a form of pasteurization. The term rolling boil facilitates communication and ensures that an effective pasteurization temperature is reached. Research has established that boiling for one minute is very effective in destroying pathogens, including protozoa such as *Cryptosporidium* and *Giardia*. The USEPA and the Centers for Disease Control have both endorsed a one minute boiling time for drinking water.

Q17 - Where can I get a sample boil water notice to help me draft a notice for my situation?

All public water suppliers should prepare sample notification language as part of emergency response planning and keep it readily available. You can obtain sample notices and mandatory health effects language from your local Health Department. With these in hand, drafting a notice to meet the specifics of your incident should not take very long.

State and federal requirements for public notification are very similar. You can also find information on public notification requirements, including health effects language and sample notifications, from the USEPA online at:

http://www.epa.gov/safewater/publicnotification/pdfs/guide_publicnotification_pnhandbook.pdf

Q18 - Do I need approval of the public notification language?

State and Federal regulations require that specific content be included in your public notice and you are well advised to obtain Health Department input to be sure you are in compliance. But because boil water notices need to get to the public as soon as possible, the regulations do not require that you to obtain formal approval.

Q19 - Can I issue a boil water notice without waiting for Health Department approval?

We recommend that any boil water notice be issued only after consultation with your local Health Department. However, if immediate notification is needed to protect public health, the boil water notice may be issued prior to consulting the local Health Department. Such notifications can be successfully distributed, and meet the SubPart 5-1 requirements, if carefully prepared with language that has been previously used and approved.

Q20 - Why can't the Health Department issue the boil water notice?

It is the water supplier's responsibility to comply with the public notification requirements of 10NYCRR SubPart 5-1. Your local Health Department may be willing to issue the boil water notice if it determines this would best serve the public interest, or when a public water supplier

does not act in a timely manner. 10NYCRR SubPart 5-1.78 specifically provides that the public water suppliers can be charged the cost of making such notification and that water suppliers remain legally responsible for ensuring that all public notification requirements are met.

Q21 - When can I end the boil water notice?

Public water suppliers may only lift a boil water notice with approval from the local Health Department. Ending a boil water notice prematurely, or without Health Department approval may result in a violation and enforcement action.

Boil water notices should not be left in effect longer than necessary, but should also not be lifted until it is determined that water quality meets microbiological standards. In most cases this requires that the water supplier complete total coliform testing in the area covered by the boil water notice. A boil water notice can be lifted after results from sampling on two consecutive days demonstrate the absence of coliform bacteria. Some exceptions to this that your local Health Department may allow include:

- if the boil water notice was triggered by a maximum contaminant level exceedance for total coliform, or a large round of total coliform sampling (i.e. 40 or more samples) is used to determine when to lift a boil water notice, the notice can be lifted when the water supplier demonstrates by two rounds of sampling that they are in full compliance with the total coliform rule, that associated *E. coli* analyses are all negative, and that the coliform sampling is representative of the area covered by the boil water notice.
- the two consecutive rounds of coliform sampling may be taken as close together as 8 hours apart, if the water supplier makes an acceptable case that these sampling rounds will adequately represent the water impacted by the condition leading to the boil water response. When a second round of total coliform samples are taken before results are available from the first round, the second round must provide at least the same number of samples and cover the same locations as the first round.
- no total coliform sampling if it can be determined from other available information that all of the water in service has been flushed and replaced with water of acceptable quality, or other wise poses no microbiological risk. This only applies for non-community and very small community water systems with a limited distribution system and only after all needed corrective measures have been implemented.

Q22 - What samples do I need to take to lift the boil water notice?

You need to consult with your local Health Department. This will help you make sure there is agreement on what sampling is needed and when results provide adequate justification to lift the boil water notice.

The number of samples and sampling locations needed to support lifting the boil water notice can vary widely depending on the cause of the boil water notice, the area affected by the boil water notice, and the size of your system. Very small systems may only need (or be able) to sample at one location. Very large systems may need to sample hundreds of locations. Usually total coliform samples taken from the distribution system in areas affected by the boil water notice

serve as the basis for deciding when to lift a boil water notice. Depending on the cause of your incident, there may also be a need to sample your source water.

Q23 - When do I sample to support lifting the boil water notice?

First round sampling should never begin until the cause of the boil water notice has been fixed. Second round samples should usually be taken at the same locations as the first round. First round results may indicate a need to sample additional locations, so it is best to wait for the results of the first round of samples before taking round two.

Plan your sampling as soon as you can. This will help you identify how many samples to take, what supplies (e.g. bottles) you will need, and when you expect to deliver samples to your lab. Call your lab well in advance to make sure they will be open and will expect your samples. If sample results are delayed due to lab availability, lack of supplies, or lack of planning, then the boil water notice may remain in effect longer than needed.

Q24 - Who can lift the boil water notice?

The boil water notice can be lifted by the same utility representatives that issued the boil water notice, but only after approval by your local Health Department.

Q25 - How do I notify my customers when the boil water notice has been lifted?

When possible, your initial boil water notice can include a time for the boil water notice to end. However, most boil water responses are not well defined when the notice is first issued, and it is usually necessary to distribute a follow up notice when the boil water requirement is lifted. The lifting notice should be distributed to the same recipients and in the same form and manner used to issue the initial boil water notice.

Q26 - How should I handle consumer questions about the boil water event?

The Health Department recommends that you designate a representative to handle public inquiries. It is important that this person can take time to handle communications without detracting from the operations needed to correct the cause of the boil water notice. Ideally this person should be well acquainted with your service area, utility operations, and Health Department requirements and should also have experience with risk communication and handling press inquiries. Your local Health Department can assist with consumer questions related to health risks, department oversight, etc.

Q27 - Does issuing a boil water notice mean my utility is in violation?

No, not necessarily. The underlying cause for a boil water notice could create a violation, but there are many reasons a boil water notice may be issued and most of these do not involve violations.

A violation would occur if a water supplier fails to identify and react to a public health hazard, or fails to properly distribute or lift a boil water notice. The Tier 1 public notification regulations are always in effect, and failure to properly follow these requirements create a violation, even if the event that triggered the boil water notice was not itself a violation.

Q28 - Once the boil water event has ended, what else do I need to do?

There are several things to do:

- SubPart 5-1.78(a)(3) requires that you provide a certification to your local Health Department saying you have fully complied with the public notification regulations. This certification must include copies of the public notices that you distributed and notices made available to the media. This certification must be made within 10 days after the boil water notice is lifted.
- Perform a post-incident evaluation to decide how you might be able to avoid or better prepare for future boil water events.
- Prepare or improve the procedures and information you may need for a future boil water event, especially contact information, identification of critical water customers, and pre-prepared notification language.

Q29 - Do I need to report boil water notices in my Annual Water Quality Report?

In general, boil water notices do not need to be reported in your annual water supply statement. But the underlying causes may need to be reported, along with descriptions of any potential adverse health effects and steps taken to correct the condition. Public water suppliers should carefully review the requirements for annual reports found in 10NYCRR SubPart 5-1.72(f). Some conditions that may be associated with a boil water notice and that may need to be reported in your annual report include:

- Maximum contaminant level violation for total coliform
- Maximum contaminant level violation for *E. coli*
- Any positive *E. coli* results for finished water
- Violation of treatment requirements for filtration or disinfection
- Violation of a condition of a variance or exemption
- Cryptosporidium or Giardia, if tested and found present in finished water

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