



IDEM Boil Water Procedure

Drinking Water Branch

(317) 232-8603 • (800) 451-6027

www.idem.IN.gov

100 N. Senate Ave., Indianapolis, IN 46204

The Indiana Administrative Code specifies the need for Public Notice (PN) to take into account the seriousness of the violation/situation and any potential adverse health effects that may be involved:

1. Drinking Water violations; and
2. Special Public Notices.

The terms Boil Water Order, Boil Water Advisory, Boil Order, Boil Advisory, Do Not Consume or No Use Order were developed to communicate actions needed by consumers in response to a situation meeting the definition of a Tier 1 public notice found in 327 IAC 8-2.1-7(c)(1). Tier 1 refers to drinking water violations and situations with “significant potential to have serious adverse effects on human health as a result of short term exposure”.

However; the Public Water System (PWS) may assess a progressive system of notification depending on the information at hand to better explain the threat and allow customers to make the best decision.

- “Boil Water Advisory” may imply precaution due to the potential or possibility that harmful bacteria may be present during an event.
- “Boil Water Warning or Boil Water Order” may imply that there is known/found bacteria in the water system and the public is warned of potential health effects.
- “Do Not Consume” may be notification provided to customers of a known contaminant that should not be ingested or that boiling the water would make it worse.
- “No Use Order” may be issued when any contact, even with the skin, lungs, or eyes, can be dangerous. Do not drink or use tap water from the impacted system for any purpose as long as the advisory is in effect, including for bathing. These types of advisories are rare.

In rule, there is no language referring to the terms Boil Water Order, Boil Water Advisory, Boil Order, Boil Advisory, Do Not Consume or No Use Order. **The rule states in 327 IAC 8-2.1-8(b), that the PWS must provide notice to their customers and to IDEM within 24 hours of a Tier 1 PN requirement.** The PN is to be distributed in a form and manner reasonably calculated to reach all persons served and is to plainly convey the information. There are several reasons a PN or Boil Water Order, Boil Water Advisory, Boil Order, Boil Advisory, Do Not Consume or No Use Order is to be issued. The similarity is that the situation has a significant potential to cause serious adverse health effects.

Loss of water system pressure:

If the distribution system pressure falls below 20 psi as required in 327 IAC 8-3.2-11, a PN must be issued. The PWS cannot lift the PN/Boil Advisory until sufficient clean bacteriological samples have been collected and analyzed. According to AWWA Standard C651-14 (Feb. 1, 2015), verification after water main repairs where the main was depressurized or partially dewatered, one set of samples is collected that is representative to the affected area to ensure that the water is safe to consume. Once the samples are found to be satisfactory, the PWS may lift the PN/Boil Advisory; however, it is recommended that the PWS collect a second set of samples. The second set and 24 hour time separation is to ensure that any increased disinfection in the affected area has fully mixed and the samples are indicative of the normal quality of the water before the event. It is also recommended that the area be “scour flushed”. If the second set of bacteriological samples is returned with positive samples, the PN/Boil Advisory must be reissued and new samples collected.

Water main breaks and repairs:

When a water main break is repaired in the water distribution system which results in the loss of pressure below 20 psi as required in 327 IAC 8-3.2-11, a PN must be issued. The PWS cannot lift the PN/Boil Advisory until sufficient clean bacteriological samples have been collected and analyzed. According to AWWA Standard C651-14 (Feb. 1, 2015), verification after water main repairs where the main was depressurized or partially dewatered, one set of bacteriological samples shall be taken in the area of the break and downstream at intervals of 200 feet within the length of the pipe that was affected or an alternative method approved by IDEM. If direction of flow is not known, sampling shall be conducted on either side of the break after repairs. Once the samples are found to be satisfactory, the PWS may lift the PN/Boil Advisory; however, it is recommended that the PWS collect a second set of samples. The second set and 24 hour time separation is to ensure that any increased disinfection in the affected area has fully mixed and the samples are indicative of the normal quality of the water before the repairs. If the second set of bacteriological samples is returned with positive samples, the PN/Boil Advisory must be reissued and new samples collected.

Additionally, bacteriological samples may not be required after a main repair if all the following are met:

A disinfectant level is met according to 327 IAC 8-2, 327 IAC 8-2.5 or 327 IAC 8-2.6 and disinfectant residual samples collected** in the area of the repair are not less than disinfectant residual levels in the areas surrounding the repair after flushing.

AND

The system continuously provides disinfection in its distribution system and positive pressure is maintained according to 327 IAC 8-3.4-12 and continues to be maintained during the repair.

***Chlorine residual documentation will be required.*

Bacteriological samples shall be taken after repairs are completed to provide a record for determining the procedure's effectiveness: (a) if there was not adequate disinfectant residual before or after the repair, or (b) positive pressure fell below 20 psi before or during the repair.

New water main installation (where an NOI is submitted):

According to AWWA Standard C651-14 (Feb. 1, 2015), verification after a new water main installation, the PWS may choose one of two options:

Option A: Before approving a main for release, take an initial set of samples and then resample again after a minimum of 16 hours. Both sets of samples must pass for the main to be approved for release.

Option B: Before approving a main for release, let it sit for a minimum of 16 hours without any water use or flushing. Then collect two sets of samples a minimum of 15 minutes apart while the sampling taps are left running. Both sets of samples must pass for the main to be approved for release.

E.coli positive samples in the distribution system in a MCL event:

Public Notice is also required in the event of a Maximum Contaminant Level (MCL) Exceedance, where *E. coli* positive samples and/or Total Coliform positive combination samples exist. In this event, the PWS may only lift the "Boil Water Warning or Boil Water Order" when two consecutive sets of samples are collected 24 hours apart and found to be satisfactory. You will need to contact your field inspector prior to lifting/cancelling a "Boil Water Warning or Boil Water Order."

If you are in a situation that may require you to issue a Boil Water Order, Boil Water Advisory, Boil Order, Boil Advisory, Do Not Consume or No Use Order, please be sure to consult with your IDEM Drinking Water field inspector.

Notice to Public Water Systems with elevated Nitrate levels:

Public water systems with elevated nitrates (regularly above 5 mg/L) should include the following language in all Boil Water Advisory, Boil Water Warning, and Boil Water Order public notices: **“DO NOT GIVE THE BOILED WATER TO INFANTS or use the boiled water to make juice or formula for children under six months of age. Boiling water with elevated nitrate concentrations will increase the nitrate concentrations in the water. Infants below the age of six months who consume water with nitrate concentrations in excess of 10 mg/L can become seriously ill and, if untreated, may die. Symptoms of the elevated nitrate illness include shortness of breath and blueness of the skin.”**