



Water Main Break Standard Operating Procedures

This document guides decision-making during a main break or when a system requires a shut-down for work or an unusual event. It does not cover every water situation and focuses on common scenarios. **If a main break or unusual event occurs, immediately contact the Delaware Division of Public Health, Office of Drinking Water (ODW).** ODW may require the reporting facility to issue a precautionary boil water notice.

A water main break is reported. Choose the best main break characteristic:

- 1.a Does the main have positive pressure? go to 2
- 1.b Is there a total or partial loss of pressure? go to 4

- 2.a Can positive pressure be maintained through the completion of the repair? go to 3.a
- 2.b Is a controlled shut-down feasible? go to 3.b
 A controlled shut-down is a scenario where either side of the main break can be closed off using shut-off valves **while under pressure** and only the area within the closed off area loses pressure. In this scenario, other parts of the system do not experience any loss of pressure.

- 3.a Contamination is unlikely – no further action.
- 3.b There is a limited possibility of contamination. A boil water advisory is not necessary if the mains are disinfected, according to American Water Works Association (AWWA) Standard C651* **and** all customers affected are advised to flush their plumbing when service is restored.

- 4. If there is an uncontrolled loss of pressure at the break site with a partial loss of pressure elsewhere in the system, a significant possibility of contamination exists and **a boil water advisory is required.**

– or –

If there is a catastrophic main break and a complete loss of pressure system-wide, **a boil water advisory is required.**

*During the implementation of the flushing in accordance with AWWA C-651 (latest edition), specifically Paragraph 4.7, if the slug method of disinfection is used, all practical consideration to customer isolation should be considered and implemented when feasible. The ODW recognizes that in certain urbanized areas and in large areas of affected isolation, customer isolation may not be practical for flushing by using the slug method as described in Paragraph 4.5 of AWWA C-651.



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Boil Water Advisory: a precautionary measure due to circumstances that could lead to contamination.

Boil Water Notice: issued when contamination is confirmed.

Excerpts from Delaware regulations for Public Drinking Water Systems (16 *Del. C.* § 4462):

Section 4.0 Reporting and Public Notification

4.1 Reporting

4.1.6 Reporting of Chemical Overfeed Incidents or Unusual Events: It is the responsibility of the owner and/or the operator of a Public Water System to report to the Division, within 24 hours, any incidents of chemical overfeed and/or unusual events.

4.1.6.1 Examples of unusual events include but are not limited to the following:

- Loss of pressure
- Well pump failure
- Main break with associated loss of pressure
- Loss of disinfectant or other treatment failure
- Acts of vandalism
- Discovery of malicious intent.

4.2 Public Notification

4.2.1.1.1 Tier 1 Public Notice: Form, manner, and frequency of notice.

4.2.1.1.1.1.7 Occurrence of a waterborne disease outbreak, as defined in Section 2.0, or other waterborne emergency (such as a failure or significant interruption in key water treatment processes, a natural disaster that disrupts the water supply or distribution system, or a chemical spill or unexpected loading of possible pathogens into the source water that significantly increases the potential for drinking water contamination);

4.2.1.1.1.1.9 Other violations or situations with significant potential to have serious adverse effects on human health as a result of short-term exposure, as determined by the Division either in these regulations or on a case-by-case basis.