

Topic: When to issue a boil water advisory when pressure is lost

Date: October 19, 2009. Modified September 16, 2013 KS KK

Rule: OAR 333-061-0042(2)(a) says that a Tier 1 notice is required for situations with significant potential to have serious health effects on human health as a result of a short-term exposure and include a specific list of scenarios. 0042(a)(H) states that the notice can be issued for other scenarios as determined by the Department.

Issue: We have historically had a public water system issue a boil water advisory when they run out of water in all or a part of the system because of the risk of backflow and/or infiltration of contaminants through leaky pipes and joints. Questions about the specific circumstances and requirements have come up. It is important to provide a consistent message to all water systems while ensuring that public health is protected.

Decision: A boil water advisory should be issued immediately if there is a system malfunction resulting in all or a portion of the system with no water, or negative pressure zones prior to isolating the customer's connection. If the system still has positive pressure, an advisory is not necessary. Due to potential for backflow of microbial and chemical constituents, a "do not drink" directive may substitute for a "boil water" directive.

- For a water outage, refer to the [Service Outages Due to Reduced Pressure Events Best Management Practices](#).
- If the system has reliable information that shows the water outage is limited to a section of the water system, the notice may be given only to the customers in that area. If only anecdotal information is available, that is acceptable, however the operator should extend the notification beyond the area of known outage. If the operator is not confident as to the location of the outage, the whole system must boil.
- Even if there are approved backflow prevention devices on every connection, a boil advisory must still be issued. There is no way to prevent infiltration of contamination from leaky pipes and joints.
- For planned repairs or construction, the system should follow the established [Best Management Practices for Cutting into or Repairing Existing Water Mains](#).
- An outage due to a main break shall be handled the same way as any other water outage.
- Once positive pressure has been restored in all parts of the system, chlorine residual should be established and the lines thoroughly flushed.

Then, a representative number of coliform bacteria samples (specials) must be taken. The boil advisory may be lifted only when all samples come back showing an absence of coliform bacteria. At this time, customers should be advised to flush their own plumbing lines to dispose of any potentially contaminated water.

- If the system does not notify the Drinking Water Program until after the incident has occurred and positive pressure has been restored, a judgment must be made about the likelihood of contaminated water being present in the system. In order to make this determination, staff must consider the following: length of time of the outage, typical water usage during that time (middle of the night versus morning or evening peak), lag time between the incident and the reporting of the incident, whether or not flushing was done, and other factors. When in doubt, public health protection must be the first priority and a boil advisory issued until coliform results come back negative. Even if the incident has passed, a delayed notice may be issued to notify the customers as to what happened and what should have happened.
- Since there is no specific EPA violation for low pressure, the system will not receive a violation for the incident. If the issue is chronic, we can formally enforce the minimum 20 psi requirement OAR 333-061-0025(7).
- Systems can use the “Boil Water Advisory for loss of water pressure” template posted on our web site. If they choose to create their own notice, they must include the following information at a minimum: A description of the situation or problem; when the situation or problem occurred; how to boil the water and/or to use an alternative water supply (i.e. bottled water); what the system is doing to correct the situation or problem; when the water system expects the situation or problem to be resolved; who to contact for additional information.

Rationale: Without positive pressure in a water system, there is a high likelihood of backflow or infiltration. Since this water is of unknown quality, public health must be protected by following the Service Outages Due to Reduced Pressure Events Best Management Practices including issuing a boil water advisory.

Though the minimum required pressure in the distribution system is 20 psi, as long as there is positive pressure in the system, a boil advisory is not necessary.