



April 2006

DOH PUB. #331-338

Questions & Answers

Responding to Pressure-Loss Events

What is a pressure-loss event and what causes it?

A pressure-loss event occurs when pressure in the water distribution system drops significantly below normal. These events may be planned or unplanned. For example, system operators may plan to reduce pressure when they install, replace or repair water lines. Unplanned pressure loss can be caused by broken water mains, a failed pumping system, power outages, leaking storage reservoirs and excessive demand.

Should I be concerned about pressure loss events in my water system?

Yes. Pressure loss can be a serious threat to public health. A reduction or loss of pressure in the distribution system can result in backflow, allowing contaminants to enter drinking water through unprotected cross-connections. Backflow is a reverse of normal water flow due to back pressure or back siphonage that occurs when the pressure of a polluted source exceeds the pressure in the distribution system. Backflow incidents have caused illness, injury and, in some cases, death.

How can I prevent backflow?

The best way to prevent backflow is by developing and implementing a cross-connection control program. For guidance see Department of Health Office of Drinking Water's (ODW) *Cross Connection Control for Small Water Systems* (331-234).*

What should I do if a pressure loss event occurs?

Immediately take the following steps to ensure the safety of your customers:

- 1. Find the cause of the problem and restore pressure.** Your first priority is restoring water pressure and maintaining the ability to fight fires.
- 2. Call your ODW regional office.** Phone numbers are on page 2. We will help you determine if a health advisory is needed. For guidance on health advisories see ODW's *Coliform Public Health Advisory Packet* (331-260) or *Nitrate Public Health Advisory Packet* (331-259).*
- 3. Flush the lines.** Customers face greater risk of consuming contaminated drinking water after a pressure-loss event. Flush the lines to reduce the risk and cleanse the system of contaminants. Follow general industry standards for flushing the system.
- 4. Disinfect the system.** Disinfection is a preventive measure to protect the water system. However, you must notify your customers first. For guidance see ODW's *Emergency Disinfection of Small Systems* (331-242).*
- 5. Collect Samples.** After you restore normal operating pressure, check the quality of the water.



HELPING TO ENSURE SAFE AND RELIABLE DRINKING WATER

How do I know if backflow occurred?

Most pressure-loss events are obvious; however, there are times when you may not know an event occurred. These events can be a serious threat to public health because of the ever-present link to possible contamination through a cross-connection.

Indications of a backflow incident include:

- **Discolored or unusual looking water.** Investigate any abnormal appearances of water, such as an unusual color, or soapy, foamy or oily water. Discolored water can also be caused by increased flows in pipes or changes in normal pipe flows that disturb sediments in the distribution system. Investigate all reports of colored water.
- **Inconsistent chlorine residuals throughout the distribution system.** Chlorine in the distribution system reacts with many different substances, including possible backflow contaminants. Low or zero chlorine residuals in the distribution system following a loss of pressure event could be a sign that chlorine is reacting with substances not normally found.
- **Taste and odor complaints.** If there are taste and odor complaints after a low pressure event, evaluate the nature of the complaints and call ODW for technical assistance. Detectable differences in taste and odor could indicate a backflow incident occurred. The human nose and taste buds are extremely sensitive and can detect some contaminants in water at extremely low concentrations.

For more information

Call the nearest ODW regional office:

Eastern Region (509) 456-3115

Northwest Region (253) 395-6750

Southwest Region (360) 664-0768

* ODW publications are online at <http://www4.doh.wa.gov/dw/publications/publications.cfm>



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