

## Distribution

1. Are the **pipes that carry drinking water from the treatment plant to my home clean?**

A well-run water utility will have an ongoing program of flushing and cleaning the distribution pipes to ensure that these pipes are clean. Flushing is done by opening fire hydrants and letting the water rush out.

2. I have seen work **crews cleaning water mains and the water they flush out looks terrible**. How **can the water be safe** if the pipes are so dirty?

Almost all water pipes have a thin film of rust and harmless microbes on the inside. Experience has shown that this thin film causes no problems. Buildup of this material may, however, cause problems such as clogging of fixtures, causing the tap water to look bad, or using up disinfectant in the water as it passes through the pipes. Water suppliers have a regular program of flushing and cleaning their distribution pipes. When they remove all of this material from the walls of several miles of a pipe and it comes out a fire hydrant all at once, it looks worse than it really is. If you watch the workers do this, you will notice that the water clears up rather clearly.

3. How does a Water Utility **detect a major leak in the distribution piping system?**

A major leak can be detected by:

- Visual detection (water on the ground) by Water Utility who work in the field.
- A loss in pressure that can be detected by the Water Utility and customers.
- Reports by public-minded citizens.

Once a leak is suspected, its precise location is determined by water utility personnel. Sensitive listening devices are used to detect the sound of leaking water underground. Stopping leaks is important to a water supplier because leaks waste water, adding cost to both the water supplier and you. The water supplier doesn't get paid for the water that is lost to leaks, but may pass its cost along to the customers. Any leakage that occurs within the boundary of your property after the water meter is your responsibility and must be repaired at your own expense. Prompt repair is to your benefit, because as long as the pipe is leaking, your water bill will be higher.

4. If leaks are **such a waste of water, why doesn't the water utility just fix them?**

Your water supplier is certainly trying to minimize leaks because they do waste water. Leaks may result from old rusting pipes or from ground movement that causes pipes to break or their joints to crack. In the complex network of pipes necessary to supply water throughout a community, it is almost inevitable that at any one time some leakage will be occurring. Many water departments have special teams to measure leakage, locate and repair leaks, find weak points in the pipe network, and replace rusting pipes.

5. **Fixing a broken water pipe** looks like a dirty job. **How is the inside of the pipe cleaned afterward?**

After work is done, the pipe is filled with water containing a large amount of chlorine. Holding this water in the pipe for a time kills all of the germs. This is not the end of the story, however. The next problem is how to dispose of all this water that contains so much chlorine. State and federal regulations control the disposal. A chemical must be added to react with the chlorine and destroy it before the water can be flushed out of the pipe and discharged, or the highly chlorinated water must be discharged to an area where it will not have an adverse impact on the environment.

6. What are the **causes of low water pressure and should low water pressure concern me?**

Temporary low pressure can be caused by heavy water use in your area – lawn watering, a water main break, fighting a nearby fire, and so on. Permanent low pressure could be caused by the location of your home – on a hill or far from the pumping plant – or your home may be served by pipes that are too small, or the pipes in your home have a lot of scale in them, leaving little room for the water to flow. This is more common in older homes. Low pressure is more than just a nuisance. If the pressure drops, the possibility of pollution entering the drinking water increases. One of the causes of poor quality water in some developing countries is low pressure in the distribution system that allows contamination to enter the pipes. You should report any permanent drop in water pressure to your Water Utility.

7. What are **cross-connections and why are they a problem?**

A cross-connection is a connection between a drinking water pipe and a polluted source. Most water suppliers have cross-connection control programs, particularly in major cities. Their distribution systems are so complex that tracking down cross-connections is a never-ending job. Removing cross-connections is vital; however, if drinking water quality is to be protected.

8. Why is **some drinking water stored in large tanks high above the ground?**

First, this type of storage ensures that water pressure and water volume are sufficient to fight fires, even if the electricity that runs the water pumps is off. The second reason is to provide an extra source of drinking water during the day when water use is high. The tanks are refilled at night when drinking water use is low.