

wellcare[®] information for you about **Protecting Your Well**



Following the terrorist attacks in New York, Washington, DC and Pennsylvania, the nation's water utilities began to prepare risk management and emergency plans to protect the public's water supplies.

The 42 million Americans who rely on individual household wells should also be prepared in the event of an emergency. By planning ahead, you can ensure the security and reliability of the drinking water from your well.

Should I worry about contamination threats?

The Federal Bureau of Investigation reported not long after the September 11 attacks that it does not consider contamination of water supplies with deadly biological agents a probable threat. In public supplies, any agent put in the massive water supply would be greatly diluted. Also, utility water treatment systems routinely filter the supply and add chlorine to kill harmful germs.

Private well owners also are unlikely to experience well contamination by biological agents. Groundwater offers a poor target. Groundwater is protected from immediate contamination by its location, typically hundreds of feet below the surface. And, it is protected from long-term contamination by its slow rate of movement through the soil, which filters out biological and chemical agents.

As a well owner, you can prevent contamination and monitor your water quality by doing the following:

- Annually test your water quality for contaminants. Keep records to document your water quality over time.
- Test your water as soon as you notice any changes to its taste, color or odor.
- Protect your well head. Learn its location and inspect for signs of damage or tampering.
- Install a secure well cap or sanitary seal.
- Carefully manage activities near your water source. Avoid mixing or using pesticides, fertilizers, herbicides, degreasers, fuels and other pollutants near the well. Keep hazardous chemicals out of your septic system.

What do I do about a disruption of service due to an electrical outage?

The loss of electricity needed to operate the pump on your well represents the greatest vulnerability of your private well system. You can avoid disruptions of service by planning ahead. Two simple solutions are to include a retention tank in your well system and/or have an alternative power source in case of emergency.

Water Storage or Retention Tanks: The average family of four requires 300 gallons of water each day for all indoor purposes, from drinking to washing clothes and preparing meals. During an emergency, a family of four can manage on as little as 120 gallons per day, mainly to provide water for drinking and flushing toilets manually.

A bulk storage or water retention tank can be added to your well system to supply water when the power fails. The tank is usually installed next to your pneumatic water storage tank, which operates on electricity. Water flows continually through the bulk storage tank, so the water will be fresh when it is needed.

A typical 120-gallon storage tank is made of galvanized steel, carbon steel or fiberglass. It is fitted with a cap at the top, to provide air, and a valve at the bottom, to drain the water. Simple gravity allows it to operate when the power is off.

Installation of a retention tank costs about \$500, including fittings and labor. Contact your well professional or purchase a tank from a well drilling supply store. Multiple tanks may be added to increase capacity.

Alternative Power Source: A gas or diesel-powered electricity generator can keep your well operating in an emergency. You could buy a small portable generator, at an average cost of less than \$1,000, just to operate the submersible pump on the water tank. Or you could choose to install a full system generator to operate your well in addition to refrigeration, heating, cooling and other systems in your home.

To determine what size generator you might need, you can go to the website, www.phaseconverter.com/selectionform.html, which features a list of the wattage requirements to operate household appliances and systems. For example, the submersible pump in a well system typically requires 3,500 watts, which would require at least a one horsepower generator.

A professional well contractor or pump supplier can help you decide what size generator fits your needs and can recommend a local dealer in portable and on-site generators.

For more information on Protecting Your Well

Find out more about drinking water protection efforts in your area by contacting your state's environmental agencies. A list of state environmental agency websites can be found at www.epa.gov/epahome/state.htm.

For more information about wells and other wellcare® publications

wellcare® is a program of the **Water Systems Council (WSC)**. WSC is a national nonprofit organization dedicated to promoting the wider use of wells as modern and affordable safe drinking water systems and to protecting ground water resources nationwide. This publication is one in a series of wellcare® information sheets. They can be downloaded FREE from the WSC website at www.watersystemscouncil.org. Well owners and others with questions about wells or ground water can also contact the wellcare® hotline at 1-888-395-1033 or visit www.wellcarehotline.org



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