



Ask the Experts

Each issue, we will ask members of the *On Tap* Editorial Advisory Board to answer a drinking water-related question. We will print as many responses as space permits.

Do small water systems need to be prepared for a possible terrorist assault?

Small Systems Are Not Immune

Yes, small systems need to be prepared for a possible terrorist assault, but how it impacts the system and customers may be no different than other potential activities that may contaminate a water supply. Small water systems are not immune to vandalism activities, nor are they immune from risk of contamination due to cross-connections or infestation of rodents or other wildlife, for that matter. All systems need to be prepared to respond to contamination events and/or customer concerns. Furthermore, water can become a fairly emotional issue because water impacts people's lives. Therefore, water system personnel need to be sensitive to customer concerns and fears.

At a minimum, water systems need to be prepared in how to notify their customers about a possible or actual contamination event. The best method is to designate a spokesperson for the water system so that the message is clearly and consistently communicated. Misinformation can do as much, if not more, damage to your customers' confidence in a water system's ability to provide safe water.

Wells, pump houses, and storage tanks (if applicable) for the majority of our systems are not fenced. Fences also do not guarantee a facility is protected. All pump house doors and access storage facilities we own and manage are locked. This is not the case with all small water systems in our area.

Some of the facilities in our area, including a few of ours, have experienced vandalism in the past. Unfortunately, there are mean, vindictive, malicious people from all walks of life everywhere. In the past, the worst offenders for vandalism have been teens associated with graffiti and breaking windows. Therefore, small water systems need to continually inspect their systems for forced entry, facility damage, and potential contamination.

Unfortunately, what teens or other people who commit these crimes do not consider is that they may get caught and the ramifications of their "pranks" could be the basis for more serious criminal charges beyond trespassing and vandalism. Even if these people do nothing more than incite fear or panic about the safety of the water supply they can face fines and/or charges. Especially with the

current state of affairs, pranks are not being tolerated. Terrorists, on the other hand, do not seem to value their own lives, and their intent appears to be to incite fear, and cause death and destruction.

The hardest part for any water system after a potential or actual contamination incident may be in trying to figure out what to test for. If the water is contaminated, system personnel will need to figure out how to clean up the supply and distribution system. Therefore, small systems may have to rely on advice from their local and state health departments or other public health experts. They may also find themselves dealing with more than just local enforcement agencies, such as the Federal Bureau of Investigation and the U.S. Environmental Protection Agency.



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System Design Weeds Out Contaminants

There is no doubt that all of us need to be more alert, aware, and prepared for possible terrorist actions these days. However, after announcing the establishment of a water protection task force, U.S. Environmental Protection Agency (EPA) Administrator Christie Whitman, in her October 5, 2001 press release, said, "The threat of public harm from an attack on our nation's water supply is small. EPA already has a strong coordinated partnership program for protecting our drinking water. This new task force will have specific duties to expand EPA's service to community water systems. Our goal here is to ensure that drinking water utilities in every community have access to the best scientific information and technical expertise available and that they know what immediate steps to take and who to turn to for help."

EPA already has a notification system in place to quickly share information among drinking water providers; local, state, and federal law enforcement agencies; and emergency

response officials, developed through a partnership with the Association of Metropolitan Water Agencies (AMWA) and the Federal Bureau of Investigation (FBI). This system—which was used in the aftermath of the September 11 attacks—is designed to alert authorities and water system officials to potential threats, vulnerabilities, and incidents. EPA has also given AMWA a \$600,000 grant to continue improvements to the system, and all partners can access the Information Analysis Center (IAC), part of the U.S. Department of Defense system.

While the 1993 cryptosporidiosis outbreak in Milwaukee is a reminder of what can happen to a water system, it is important to remember that water treatment facilities are designed to weed-out biological contaminants. For someone to attempt to poison a system at the plant site would be the least likely scenario. Attempts to contaminate source waters or distribution systems are more likely, but very difficult to achieve without detection, as a saboteur would need very large volumes of whatever substance he was using.

Terrorists are usually more interested in large-scale acts of destruction, which makes small water systems less likely to be targeted. In addition, since the vast majority of small water systems use groundwater, contamination at the source is more difficult, as long as wellheads are secure. It is far more likely that these cowards would attempt to damage or destroy system infrastructure, such as dams, reservoirs, and buildings.

We are suffering such “information overload” with the blitz of media and facts concerning the aftermath of September 11 that sometimes, we just need to turn it off for a while. However, we should still stay up to date on security issues. One excellent resource for small system security information is on the NDWC Web Site at www.nesc.wvu.edu/ndwc/ndwc_protect_resources.htm. You can also check the EPA’s Office of Groundwater and Drinking Water at www.epa.gov/ogwdw, National Rural Water Association at www.nrwa.org, and the American Water Works Association at www.awwa.org for small system resources.

We all need to be vigilant and more aware of what is happening around us and in our systems—without overreacting out of fear—and we should report any suspicious situations to our local law enforcement agencies immediately.



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Be Prepared for Anything

Of course small water systems should be prepared for terrorist attacks. Not that such an attack is likely, and is indeed very unlikely, but small systems should be taking precautions to

protect their water system against all kinds of emergencies. If the water system is doing an adequate job of day-to-day water protection, they will also be prepared for an emergency, whether it is a terrorist attack or anything less. The nature of a terrorist attack is much the same as the system faces everyday from other threats. It is not much different that the threat from a disgruntled employee, a teen-age prank, or an act of God. Proper emergency planning and preparation should be an on-going part of any water systems operation. Not just in time of national alert.



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Terrorism Should Be Addressed

As water professionals, our duty is to protect the public water supply by identifying and addressing all possible situations. Terrorism should be one of the issues addressed in the system’s emergency management plan. All systems should be prepared for all types of emergencies.

After September 11, 2001, one of the systems that we operate received numerous calls from customers about a car with Florida tags asking about the water system. The rumor started by the innocent act of a salesman (not asking about the water system). The rumor was only that, a rumor, but the concerns of the customers were real. This event is an example why systems large and small should be prepared for terrorism. Systems should be prepared to address security, emergencies, and the concerns of the customers, regardless of the likelihood of terrorism.

Small systems need to revisit their security and emergency management plans. Does the plan address terrorism? If there is not a plan available, ask your regulatory agency, or one of the many technical assistance organizations in your state for assistance in developing a plan. Any plan should address the concerns of the customers.

Preparing for these situations should include the police, fire, and any other department or organization that can assist. The details of a security plan should not be made public. If it’s publicized, it is no longer a viable plan. But the system should include public notification as part of its plan, and asking the public to call if they see suspicious activities.



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Threats Are Minimal, But Real

Though the threat of drinking water contamination through terrorist activities is remote, small water systems must be prepared for sabotage. In 1997, a potential terrorist attack on a water supply was serious enough to prompt forming a federal commission. The Critical Infrastructure Protection Advisory Group (CIPAG) named drinking water as one of eight critical infrastructures and prompted the U.S. Environmental Protection Agency (EPA) to devise a water security system to protect against terrorism. A recent press release describes what EPA is doing to protect drinking water.

Under Presidential Decision Directive (PDD) 63, issued in May 1998, EPA was designated as the lead agency for the water supply sector. The following is a brief description of the activities that have taken place since that directive:

- In September 1998, EPA established a public/private partnership with water-related organizations. Subsequently, they appointed Diane Van de Hei executive director of the Association of Metropolitan Water Agencies (AMWA), which is the water sector liaison to the federal government on critical infrastructure.
- In November 1998, a preliminary plan, "National Infrastructure Assurance: Water Supply Sector," was drafted. While the November 1998 preliminary plan showed a scheduled completion date of 2003 for these activities, the schedule has been accelerated in response to the terrorist acts of September 11. EPA expects all activities to be in place or completed by the end of 2002.
- In October 2001, the Water Protection Task Force was established to ensure that activities to protect and secure water supply infrastructure are comprehensive and are carried out quickly.
- In October 2001, EPA circulated useful information about steps America's water utilities can take to protect their supply sources and infrastructure, which includes pumping stations, treatment facilities, and computer systems.
- EPA also is working with Sandia National Labs to develop training materials for water companies to help them conduct thorough assessments of their vulnerabilities.

The threats are minimal, but real, and water system owners, operators, and managers should take them seriously. Formal emergency response plans should be in place or written immediately, and small water system personnel should review and have formal safety plans in place. The age of innocence that water system owners, managers, and operators enjoyed for many years has come to an end.

Terrorism is defined as the systematic use of violence, terror, or intimidation to achieve an end. Successful terrorism is based on finite planning and non-detection of activity. Early detection of unauthorized activity protects the water system from becoming the target of terrorism.

However, a terrorist may not be part of bin Laden's al Qaeda extremist network, or another well-organized terrorist group. A terrorist may be a disgruntled employee, a deranged member of the village or community, or a person with a grudge against a water system owner or employee. Yet, a terrorist also may be a member of a well-organized terrorist group out to disrupt and kill members of a community. Terrorists identify vulnerable areas in communities. Their acts aim to cause the greatest amount of damage and create the most fear. Small water systems could serve as the vehicle to deliver the harm and fear that make terrorist acts successful.

Operators and managers should increase source water and water system facility inspections. An operator's senses are the best tools available for detecting abnormal water system conditions. Sight, sound, smell, and feel are the main tools that warn of potential or existing problems.

Look for any change that may have occurred at any of the facilities since the last visit: signs of unauthorized entry to the facilities, water tanks, or changes in water color, smell, or appearance. A water supply may appear clear, have no odors, and taste fine, yet may have a high level of dissolved substances or microorganisms that are not visible to the naked eye. Since it is impossible to judge the quality of the water with the eye, it is critical to analyze the water for physical and chemical properties. When it comes to drinking water, it's what you cannot see, smell, or taste that might pose the danger. Review your monitoring records and make sure your chemical and bacteriological samples are current and up-to-date.

Inspect intakes at least daily. Record the date and time of visits and record observations. Verify that water storage tank ladders and access lid locks are in place. Note and investigate any unusual smells at the water source or storage facilities. Pay close attention to any changes that may have occurred and thoroughly investigate why the change occurred. Do not take any changes for granted. Report unauthorized entry to facilities to the manager and owner. Notify the proper legal authorities immediately. Surveillance, vigilance, and common sense, will help protect a community from a terrorist attack.



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