



Just the Facts...

Drinking Water Consumer Complaints

Terrorist Threat of Contamination

Intentional contamination of the drinking water on a U.S. military installation could adversely impact both the health of personnel and the mission of the installation. Widespread illness and potential deaths could also generate a great deal of media attention, nationally and internationally. Furthermore, consumer confidence in the military's ability to protect soldiers, their families, and installation personnel from a terrorist attack would greatly decrease, thereby lowering morale and raising fears.

As installations advise their residents to become more vigilant in watching for strangers around the community water towers and pumping stations, concerns remain about the quality of water in the unseen buried pipes of the drinking water distribution system. Until technology provides an "all-inclusive" sensor that alerts the installation of the presence of chemical, bacteriological, and radiological contaminants, military installations should focus on using more conventional water quality indicators to gage water quality. Increasing measurements both in number of locations and frequency for disinfectant residual concentration, pH, turbidity, and coliform bacteria is recommended.

Untapped Surveillance Resource

Fortunately for the military, the presence of many drinking water contaminants affect drinking water aesthetics (i.e., taste, odor, and color) and can be detected by consumers. In some cases, consumers have demonstrated that their sense of smell rival highly expensive analytical instruments by detecting some chemicals at nanogram per liter (ng/L) or 10^{-9} grams per liter (g/L) levels. Consumers can be an integral part of a drinking water monitoring program because of their keen sensory abilities.

From a health surveillance standpoint, drinking water consumers are the untapped surveillance resource. On military installations, consumers act as "real-time" water quality sensors. Consumers are extremely valuable because they are located at every point in the distribution system, and can evaluate the quality of their drinking water every time they drink it. Also, in the past, complaint feedback has proven to indicate treatment process failures and the presence of undesirable contaminants.

Unfortunately, consumer complaints are not effectively handled or resolved at most military installations. Primarily this occurs because (1) consumers do not know whom to contact when they have a complaint, (2) multiple organizations on post receive and investigate a complaint, (3) complaints are not documented and reviewed, and analyzed for trends, (4) correct handling and follow-up procedures are not used, and (5) few organizations have developed guidance for handling consumer complaints. Most importantly, failure to have an effective response and tracking program could result in a disorganized response to a contaminated water incident and be a missed early warning opportunity.

Improving Army Installation Surveillance

To better manage consumer complaints, military installations should:

- Promptly designate one organization responsible for investigating all complaints.
- Make consumers aware of where to call through articles or advertisements in installation newspapers, in-processing information packages, and consumer confidence reports.

- Encourage consumers to report any water quality or supply problems.
- Immediately respond to and solve any consumer complaint, as it may be an early indication of contaminated water.
- Execute consistent and effective procedures outlined in the USACHPPM *Drinking Water Consumer Complaint Technical Guide*. This guide explains how best to handle complaints, to conduct a field investigation, what laboratory analyses to run, and what follow-up actions to take.
- Utilize a distribution system map to track complaints spatially as shown in the adjacent figure.
- Utilize bar charts and graphs to track complaints over time.
- Permanently mark physical discomfort complaints (i.e., nausea and vomiting) in the electronic database and on a map.
- Measure the following parameters during a field investigation:
 - By analytical testing: pH, temperature, disinfectant residual concentration, turbidity, and conductivity.
 - By sensory evaluation: describe appearance, taste, and odor.
- Contact the drinking water primacy agency about consumer complaint regulations. Some States, such as Pennsylvania and Tennessee, require utilities to record specific consumer information and maintain records of consumer complaints for at least 5 years.



Figure of the XYZ Water System Showing the Spatial Location of Consumer Complaints. The darkened circle indicates the location of one consumer complaint that has been filed in the last 24 hours.

Additional Assistance

Further guidance on how to implement or improve the installation's consumer complaint handling system can be obtained by contacting the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) Water Supply Management Program at the address listed on the bottom of the fact sheet or by using email: Water.Supply@apg.amedd.army.mil.

Selected References

Whelton A.J. and Richards T.E. 2003. The Untapped Military Drinking Water Surveillance Resource. *Proceedings National Defense Industrial Association*. April 7-11, Richmond, VA.

U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM). *Technical Guide, Drinking Water Consumer Complaints*. Draft 2003. Aberdeen Proving Ground, MD.