Office of Advocacy

EPA'S Fact Sheet

Proposed Revision to Arsenic Drinking Water Standard

May 2000

Background

Long term exposure to low concentrations of arsenic in drinking water can lead to skin, bladder, lung, and prostate cancer. Non-cancer effects of ingesting arsenic at low levels include cardiovascular disease, diabetes, and anemia, as well as reproductive and developmental, immunological, and neurological effects. Short-term exposure to high doses of arsenic can cause other adverse health effects, but such exposures do not occur from U.S. public water supplies at the current standard of 50 ppb.

The current standard of 50 ppb was set by EPA in 1975, based on a Public Health Service standard originally established in 1942. A March 1999, report by the National Academy of Sciences concluded that the current standard does not achieve EPA's goal of protecting public health and should be lowered as soon as possible. Under the Safe Drinking Water Act Amendments of 1996, EPA is required to promulgate a final rule by January 1, 2001.

Proposed Revisions

EPA is proposing to change the arsenic standard in drinking water to 5 ppb to more adequately protect public health. The proposed arsenic standard is intended to protect consumers against the effects of long-term, chronic exposure to arsenic in drinking water. The new standard will apply to all 54,000 community water systems, serving approximately 254 million people. A community water system is a system that serves 15 locations or 25 residents year-round (e.g. most cities and towns, apartments, and mobile home parks with their own water supplies). EPA estimates, however, that only 12 percent, or 6,600, of these water systems, serving 22.5 million people, will have to take corrective action to lower the current levels of arsenic in their drinking water. Of the affected systems, 94 percent serve fewer than 10,000 people.

EPA is taking comment on other proposed levels for arsenic. EPA is for the first time proposing a drinking water standard (5 ppb) that is higher than the technically feasible level (3 ppb). The Safe Drinking Water Act (SDWA) requires EPA to determine the health goal, then to set the standard as close to the goal as technically feasible. The 1996 Amendments to SDWA for the first time granted EPA discretionary authority, if it determines that the technically feasible level does not justify the costs, to adjust the standard to a level "that maximizes health risk reduction benefits at a cost that is justified by the benefits."

Under this proposal, water systems that serve at least 25 of the same people more than six months per year, such as schools, churches, nursing homes, and factories would be required to notify their consumers if the arsenic levels in their drinking water exceed the new arsenic standard.

EPA is also proposing a public health goal of zero for arsenic. The health goal is the level below which no known or anticipated health effects would occur. EPA sets public health goals at zero for all known carcinogens for which there is no dose considered safe.

Arsenic Occurrence

Arsenic occurs naturally in rocks and soil, water, air, and plants and animals. It can be further released into the environment through natural activities such as volcanic action, erosion of rocks, and forest fires, or through human actions. Approximately 90 percent of industrial arsenic in the U.S. is used as a wood preservative, but arsenic is also used in paints, dyes, metals, drugs, soaps, and semi-conductors. Burning fossil fuels, paper production, cement manufacturing, and mining can also release arsenic into the environment.

While many systems may not have detected arsenic in their drinking water above 5 ppb, there may be "hot spots" with systems higher than the predicted occurrence for an area. More water systems in western states that depend on underground sources of drinking water have naturally-occurring levels of arsenic at levels greater than 10 ppb than in other parts of the U.S. Parts of the Midwest and New England have some systems whose current arsenic levels range from 2-10 ppb.

Cost

For systems that require corrective action to meet a standard of 5 ppb, annual household costs will average $28 for Americans served by large systems and $85 for those served by small systems (those serving fewer than 10,000 people). Over 98 percent of the cost to water systems comes from adding treatment equipment, chemicals, and oversight of the new treatment.

Since 1996, EPA's drinking water state revolving fund program has made available $3.6 billion to assist drinking water systems with projects to improve their infrastructure. EPA has funded over 1000 loans for projects around the country.

More Information

The proposed arsenic rule is open for comment for 90 days. For general information on arsenic in drinking water, contact the Safe Drinking Water Hotline, at (800) 426-4791, or visit the EPA Safewater website at http://www.epa.gov/safewater or the arsenic website at http://www.epa.gov/safewater/arsenic.html.

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