



Radionuclides in Public Drinking Water

In the past, drinking water suppliers used most of their resources treating contaminated source water. Today, this treatment cost is greatly reduced through increased emphasis on protecting the water sources from ever becoming contaminated. A source water protection program generally includes the following components:

- **Delineation:** Identifying the area of land that water passes through to reach the drinking water intake.
- **Contaminant Source Inventory:** Mapping the locations of potential sources of drinking water contamination.
- **Source Water Protection Area Management:** Using regulatory controls, such as zoning and health ordinances, or non-regulatory controls, such as public education and technical assistance to businesses to keep contaminants out of drinking water supplies.
- **Contingency Planning:** Coordinating special actions in case a sudden event (e.g., a flood or spill) threatens the drinking water supply.

While these programs are effective, protective measures are still taken at the plant that processes the water before it is distributed to the public. The water is tested regularly and filters are in place to remove chemical and radiological contamination.

Drinking water with elevated levels of radium and uranium – which are found in virtually all rock, soil, and water – may cause cancer after several years. Drinking water with elevated concentrations of uranium may affect a person over a much shorter time period.

Radon is a radioactive gas. It occurs naturally and is produced by the breakdown of uranium in soil, rock, and water. It can also dissolve into our water supply. As you shower or use your water for other household tasks, the gas can be released from the water into the air.

When water treatment plants encounter radioactive contaminants, personnel evaluate the quantity and type of the material to determine if it may be discharged into the sanitary sewer system or if it requires disposal in off-site facilities licensed to receive and dispose of radioactive waste.

Who is protecting you

U.S. Environmental Protection Agency (EPA)

Under the Safe Drinking Water Act (SDWA), EPA sets limits for specific radioactive contaminants in public drinking water. Local water suppliers must follow these limits and inform citizens, through their annual drinking water reports, of the level of radon and other radionuclides in their water. The Agency has established programs to provide guidance to drinking water treatment plants and state regulatory agencies on implementing these limits.

The States

Most states have established drinking water standards that implement EPA's Safe Drinking Water Act, enforce those standards, and establish monitoring programs.

What can you do to protect yourself

Get Involved:

- Voice support for controlling how land is used near drinking water intakes;
- Sponsor or organize household hazardous waste disposal days to promote proper handling of paints and thinners, pesticides, used oil, and other hazardous materials;
- Contact state and local environmental agencies for more information on clean water programs; and
- Read your public water system's annual report card on how well they meet the EPA contaminant limits for drinking water.

Resources

You can explore this radiation source further through the resources at the following URL:

<http://www.epa.gov/radtown/public-water.html#resources>

We provide these resources on-line rather than here so we can keep the links up-to-date.