Typically, the water system owner will attempt to obtain water from a low radium source to replace or blend with the water containing higher levels. Some systems may be able to drill new wells or reconstruct existing wells to obtain groundwater with a lower radium content. Treatment techniques that soften water are usually effective in removing radium. In some cases, the cost of the equipment, operation and maintenance can be significant. However, treatment for radium removal may often have beneficial side effects, such as reducing elevated iron content in the water. More frequent water quality monitoring will be necessary until such time as the radium levels have been reduced and maintained below the MCL.

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What solutions are available for private well owners?

Private well owners are encouraged to have their well water tested if they live in areas known to have high radium levels in groundwater. In most cases owners will be advised to reconstruct or replace the well in order to obtain water with a lower radium content. Another option may be for the homeowner to purchase a Wisconsin Department of Safety and Professional Services approved water treatment system. A list of approved water treatment devices and the contaminants they remove is available at dsps.wi.gov/php/ab-paoppo/contam_alpha_list.php. However, because water softeners and other treatment systems vary in their ability to remove different types of contaminants, well owners should proceed cautiously before installing a home water treatment unit.

If the well serves the public, such as a restaurant or daycare, then prior written approval from the DNR is required for the specific installation. All well owners whose wells have radium above the MCL are encouraged to contact the regional office of the DNR for assistance. To learn more about the approval process or to receive a list of home units approved for radium removal, contact your regional drinking water & groundwater specialist or call (608) 266-0821.

Where can I get more information?

Information on radium in drinking water and groundwater resources
Visit dnr.wi.gov, Search: Drinking Water. Select the Publications link where you will find information on a variety of listed topics.

Information on radium and related health issues
To obtain more information specific to radium and health contact your health care provider, local public health department or the Wisconsin Department of Health Services, Radiation Protection Section at (608) 267-4797.

Information on drinking water testing or sampling procedures
To receive appropriate bottles, sampling instructions and fee information for testing your private well for radium, contact the Wisconsin State Lab of Hygiene at (608) 224-4202 or 1-800-442-4618.

Information on the quality of your drinking water supply
Contact your local water supplier, your regional drinking water & groundwater specialist or visit the DNR website, listed above, for consumer confidence reports or other information related to public and private drinking water supplies.

Contact us
Customer Service Staff are here to assist you 7 days a week, 7 a.m. to 10 p.m. Call Toll Free 1-888-WDNRINFO (1-888-936-7463)

How may we help you?
Chat available from 7 a.m. to 9:45 p.m.
Call a representative 7 a.m. to 10 p.m.
Email your question.

Toll free hotlines
Violation Hotline: 1-888-936-7463 phone
Emergency Spill Hotline: 1-800-943-0003 phone

Bilingual Services are available

What is radium?

Naturally occurring radium (Ra) is a radioactive element contained in many rock formations, usually in small amounts. There are two forms of radium that can most likely be transferred from the rock into Wisconsin (WI) groundwater: Ra-226 and Ra-228. As they naturally break down over time, (a process called radioactive decay), they give off different types of radioactive particles. Ra-226 gives off alpha particles; Ra-228 gives off beta particles. However chemically, they both behave like calcium and magnesium, the two major components of water hardness.

This brochure describes the presence of radium in Wisconsin’s drinking water supplies, information on basic requirements of public water supplies, recommendations for private well water, an introduction to potential health effects and where to find out more detailed information.
**Public Water Supplies**

All community public water systems are required to notify consumers, on a quarterly basis, if any contaminant, including radium, goes above the maximum contaminant level (MCL) allowed by the federal and state drinking water codes. The MCL for combined Ra-226 and Ra-228 is currently 5 pCi/l (picocuries per liter of water). A picocurie is a measurement describing the rate of radioactive decay.

**What can be done if a community well contains elevated radium?**

Communities have several options to reduce or eliminate the presence of radium in their drinking water supplies if it exceeds the MCL. These options include but are not limited to the following:

- **Blend high radium water with water from sources containing lower levels of radium.**
- **Find an alternative water supply or construct a new well into a low radium aquifer.**
- **Soften or apply another effective radium removal treatment technique to the water supply.**

The DNR and the water system owner will work together to develop a plan to bring the community public water system back into compliance with Wisconsin Administrative Code and SDWA requirements. Since USEPA revised the Radionuclide Rule in 2001, the DNR has worked with over 40 communities to bring them back into compliance with the radioactivity standards. The DNR is still working with a few communities on long-term alternatives for returning to compliance.

The water system owner must also notify consumers of the planned methods they will take to reduce the levels of radium to below the MCL.