

Frequently Asked Questions About Radium

What is radium and how did it get in FCWSA's drinking water?

Radium is a naturally occurring radioactive metal found in rocks and soil that, through the process of erosion, can make its way into groundwater aquifers like the one serving the one affected well.

Since radium is present at relatively low levels in the natural environment, everyone has some level of exposure from it. However, individuals may be exposed to higher levels of radium and its associated external gamma radiation if they live in an area where there is an elevated level of radium in soil.

How did FCWSA discover radium in Fauquier County drinking water?

Before safe drinking water is delivered to FCWSA customers, it is tested rigorously for dangerous bacteria and more than 130 different contaminants, including radium.

Because groundwater can continually change, by law, four quarterly samples are required by the Virginia Department of Health (VDH) before a determination can be made that a well is not in compliance with drinking water standards.

When the elevated levels for radium were first discovered, FCWSA began conducting additional tests in cooperation with VDH. The most recent tests conducted in March 2018 confirmed that water from one well still contained elevated levels of radium.

What is the impact of elevated levels of radium on public health?

Because radium is a known carcinogen, federal and state drinking water standards are in place in the form of a Maximum Contaminant Level or MCL. An MCL is the maximum concentration of a substance that is allowed in public drinking water systems.

At radium's MCL level of 5 pCi/l, the amount of exposure from drinking water for one year equals the amount of exposure from one chest x-ray. FCWSA's one well averaged 6.6 pCi/l for a period of one year.

What did FCWSA do after discovering one of its wells had elevated radium levels?

When the elevated levels for radium were first discovered, FCWSA began conducting additional tests in cooperation with VDH. The most recent tests conducted in March 2018 confirmed that water from one well still contained elevated levels of radium.

When FCWSA received the fourth-quarter test result in May confirming continued elevated levels of radium in the one well, it was immediately shut down. It will continue to be out of service until FCWSA completes constructing additional treatment infrastructure and has solid scientific evidence that its radium levels are safe.

MORE

Is my water safe to drink? Why wasn't the public informed before now?

Yes, the water is safe to drink. Because the drinking water in the system is blended, and the other 11 wells met federal and state standards throughout 2017 and 2018, the water was determined to be safe to drink throughout our system.

To repeat, because groundwater can continually change, by law, four quarterly samples were required by the Virginia Department of Health (VDH) before a determination could be made that the well was not in compliance with drinking water standards.

FCWSA was always in accordance with state water testing requirements. Because of the radium levels FCWSA uncovered, FCWSA received a Notice of Violation (NOV) from the Virginia Department of Health.

Because of the nature of drinking water violations, FCWSA can only receive a Notice of Violation for elevated radium levels after the last round of test results is received, a full year after the initial discovery.

It is important to note that receiving a Notice of Violation does not mean the drinking water was unsafe to drink at any time. In fact, the notice provided by VDH says that "customers do NOT need to use an alternative water supply. If you have specific health concerns, consult with your doctor. There is not an immediate risk. If it had been you would have been notified immediately."

VDH does require FCWSA inform its customers served by the well of the violation. After receiving the NOV, we are informing our affected customers by letter, by press release, and through our website.

Do I need to switch to bottled water?

No, the notice provided by the state says that "customers do NOT need to use an alternative water supply."

Can a water filter remove radium from the water?

Most water filters sold commercially at retail outlets are designed to remove chlorine and other contaminants, not radium.

How will FCWSA remove radium from the water?

FCWSA will install treatment infrastructure on the well designed to reduce the levels of radium in the well's water. Because radium is naturally occurring, the well will be closely monitored after the treatment process is put in place. It will not be put into service until testing confirms it is fully compliant with federal and state drinking water standards.

What if I have more questions?

Contact FCSWA if you have any additional questions about your water:

- Go to our website at www.fcwsa.org/radium;
- Contact a FCWSA Customer Service Representative at (540) 347-7689; or
- Email us at customerservice@fcwsa.org. We'll get back to you within 24 hours.