



U.S. ARMY GARRISON BENELUX

WATER TESTING PROCESS

SHAPE Community - Update #3 - Jan. 7, 2020

WHY THIS UPDATE NOW ?

- As promised in November 2019, we continued to consult with our teams of experts to verify the right processes are in place to ensure your water is safe.
- We have received the results for the first quarter of fiscal year 2020 combined Radium-226 and Radium-228.



HOW ARE WE DOING NOW ?

The results are well below the 5 picoCuries per liter (pCi/L) maximum contaminant level (MCL) established by the Final Governing Standards for Belgium (BFGS). Per BFGS Table C3.T10, "Radionuclide MCLs and Monitoring Requirements," the SHAPE water system can be restored to reduced monitoring for combined Radium-226 and Radium-228 if the average of four quarterly samples falls below 2.5 pCi/L.



WHAT'S RADIUM 226 ?

Radium is a naturally occurring radioactive metal that exists as one of several isotopes. It is formed when uranium and thorium decay in the environment. Radium is found at low levels in soil, water, plants and food in the natural environment.



WHAT ARE THE STANDARDS ?

- The U.S. Environmental Protection Agency (U.S. EPA) has established the Maximum Contaminant Level for Radium-226 at 5 pico curies per liter (pCi/L), based on a running annual average.
- The Belgian standards are the same. Common practice requires the use of the most stringent standards, which does not apply in this case since both nations use the same standards. The water at the CDC tested at 5.0.



WHO TESTS WHAT ?

- Public Health Command Europe performs point-of-entry audit monitoring of all U.S. DoD water systems in USAG Benelux.
- Monitoring is conducted on varying frequencies based upon historic compliance results and risk. This varies from quarterly for radionuclides (including radium) to every 9 years for asbestos.
- Additionally, PHCE performs Environmental Protection Agency Lead and Copper Rule monitoring once every 3 years due to historically low concentrations of these metals
- Results are analyzed and reported to Installation Management Command-Europe and the garrison's directorate of public works. Additionally, PHCE also provides those organizations additional guidance and expertise as needed.
- Throughout the months, as a part of its water surveillance program, the SHAPE Preventive Medicine-Environmental Health Section (PM-EHS) performs bacteriological water quality analysis at selected testing points on the SHAPE water distribution system. Water and ice samples are simultaneously analyzed for the presence or absence of total coliform and E. coli bacteria, free available chlorine (FAC), pH and turbidity.
- Once a week, the SHAPE Base Support Group's Infrastructure Maintenance and Works office test the water quality in all boiler rooms - hot water is always equipped with a water softener. They also do daily sampling to verify the integrity of the system.
- Each day, the Société Wallonne Des Eaux (SDWE, Belgian water supplier) tests several hundred samples that are taken along the water distribution system, from the source to your faucet: <https://www.swde.be/en>



WHAT'S NEXT ?

- PHCE will continue the quarterly testing as part of the IMCOM-E FY20 annual drinking water monitoring program. They will ensure all the samples get processed in a timely manner and send out results as soon as they are analyzed
- At the end of FY20, we will average all results to determine compliance and future monitoring schedules. If the average of the quarterly monitoring is below 2.5 pCi/L, we can return to reduced monitoring once every 4 years. If it is between 2.5 and 5 pCi/L, we will require quarterly monitoring once every 4 years. If results were to be over the MCL of 5 pCi/L, the system would be in non-compliance and require mitigation.



U.S. Environmental Protection Agency: <https://www.epa.gov/>

Questions ? <https://home.army.mil/benelux/> or usarmy.benelux.id-europe.list.pao@mail.mil