

FACT SHEET: RADON

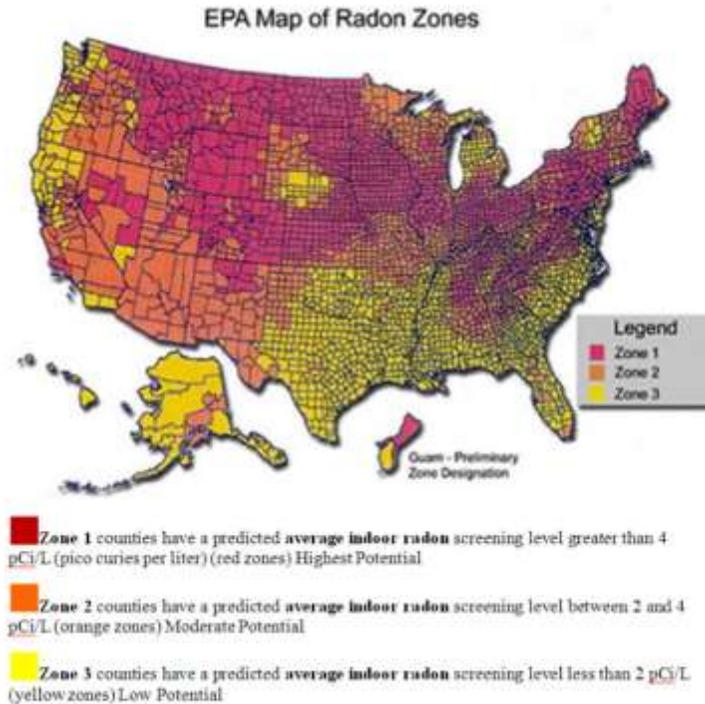
Radon is a naturally occurring odorless, colorless gas that comes from the nuclear disintegration (α -decay) of uranium and radium, both of which are commonly found in soil and rock. Radon has been detected in every state and may be detected in many kinds of buildings, including houses, schools, and commercial buildings.

Radon gas decays to radioactive particles (commonly known as “radon daughters” or radon progeny) that can be inhaled and trapped in the lungs. Under certain conditions, these radioactive particles could initiate lung cancer. Not everyone exposed to elevated radon concentrations will develop lung cancer, and there is uncertainty about the magnitude of the health risks associated with residential-level radon exposure. Risk has been associated with high exposure levels (e.g. underground mining), and the health risks of radon exposure are much greater when coupled with smoking.

Radon usually enters a building through hollow block walls, cracks in foundation floors and walls, and openings around pipes, sumps, or drains. Radon movement into a building is dependent upon several factors, including air pressure, wind, soil conditions, and ventilation inside a building.

Because of these and other factors, the radon concentration in a building may fluctuate over time. The U.S. Environmental Protection Agency (EPA) has recommended testing homes and schools and consider mitigation if the annual average indoor radon activity concentration (on lowest occupied levels) exceeds 4 picoCuries per liter (pCi/L) of air.

Fayette County, Kentucky has been designated as a Zone 1 county by the EPA, the tertile of highest predicted indoor radon concentrations based on underlying geology. See map below.



Radon Activities at UK

Testing of University buildings for radon began in 1988. Over 250 buildings have now been tested on the Lexington campus. Locations with elevated radon concentrations were prioritized for further investigation or mitigation.

Typical follow-up actions have been additional testing (to confirm annual average radon concentrations and evaluate seasonal fluctuations), installation of small ventilation fans, evaluation of building HVAC systems, and installation of radon mitigation systems. Mitigation has been performed in office and classroom buildings, residences, and dorms. Testing indicates that mitigation systems and ventilation fans have been effective in reducing radon concentrations.

Radon monitoring activities are ongoing on-campus, since exposures can change over time due to factors such as climate, and building/foundation age. If you see a gray radon test box in your building, do not be surprised and do not disturb these boxes.



If you have any questions about radon risk, testing, or reduction methods, please contact UK Occupational Health & Safety at 257-7600.