MCPS Radon Testing and Mitigation Program Update

History of Radon Testing, Mitigation, and Prevention in MCPS Schools

Since the late 1980s, Montgomery County Public Schools (MCPS) has tested for radon in our schools. An intensive period of systemwide testing and remediation was accomplished in the late 1980s through the mid 1990s to ensure that all schools complied with United States Environmental Protection Agency (EPA) guidance for radon. Since that era, radon prevention measures such as sub-slab vapor barriers, proper sealing, and sub-slab vents have been incorporated into all new construction.

Since 2010, the MCPS Indoor Air Quality (IAQ) unit has been conducting a review of the school system's radon test results. Retesting is underway at those schools with slightly higher levels than the EPA recommended limit of 4.0 pCi/L to ensure that all schools have been tested for radon levels and appropriate measures are taken to reduce the radon levels.

General Information on Radon and Testing for Radon

As a basic introduction, radon is a naturally occurring radioactive gas that comes from the natural breakdown (decay) of uranium which is found in soil and rock all over the United States, including the State of Maryland and Montgomery County. Since radon is an invisible, odorless gas, the only way to determine radon levels is through testing.

Even though radon exposure levels and testing is not required, MCPS follows the EPA recommended guidelines for testing and mitigation outlined in EPA Publication EPA 402-R-92-14: Radon Measurement in Schools (Revised Edition) *http://www2.epa.gov/sites/production/files/2014-08/documents/radon_measurement_in_schools.pdf.*

In the event that radon is detected above 4.0 pCi/L, longer-term (30 day-period) testing is recommended to confirm levels. If long-term testing confirms levels above 4.0 pCi/L, steps will be taken to remediate the affected area(s). Using methods suggested by the EPA, remediation typically involves the installation of venting systems that vent radon gas from the ground beneath the building to the outside air. In accordance with EPA guidance, schools with levels above 10 pCi/L have higher priority for retesting and remediation. If test results show radon levels near 100 pCi/L or greater, the EPA recommends relocation of that classroom until the radon levels can be reduced. None of the MCPS classrooms is at a level that requires relocation. MCPS also coordinates post remediation radon testing to ensure the effectiveness of the radon mitigation system.

Because a child's exposure in a particular classroom represents a small part of their exposure over the whole year, continued use of the classroom during a period of retesting is not a health problem unless radon levels are extremely high. It is important to put into perspective that people, particularly children, spend more of their time at home. In fact, children spend approximately 12 percent of their time in school over a full year, compared with more than 75 percent of their time spent in the home environment. Since people, especially children, spend most of their time at home, the U.S. Surgeon General recommends that all homes should be tested for radon. This is especially relevant in our county as Montgomery County's Department of Environmental Protection (DEP) reported that about 35 percent of the homes tested in 2002 had radon levels above 4.0 pCi/L.

Do Slightly Elevated Levels of Radon Present a Safety Hazard?

Facts about radon and best practice testing for radon:

- The United States Environmental Protection Agency (EPA) guidelines for radon testing are focused on long-term radon exposure above 4 pCi/L. This is not meant to be a short-term threshold for safety. EPA does not recommend that schools use a single short-term test as the basis for determining whether or not action needs to be taken to reduce radon levels.

- In considering what radon exposure level presents a short-term safety hazard, EPA states that if radon levels approach 100 pCi/L or greater, school officials should call their State Radon Contact and consider relocating students until the levels can be reduced.

- A short-term radon test is typically a 3 to 5 day test period and a long-term test is a 30 to 90 day test period. The test results are substantially influenced by the unoccupied periods when the ventilation systems are not operating. Short- and long-term radon test results are an average of the radon level over the duration of the test, including both unoccupied and occupied periods.

- MCPS classrooms all have ventilation systems that bring in a substantial amount of outside air, typically 450 cubic feet of air per minute per classroom. This means that the typical classroom has air changes with outdoor air every 20 minutes or so.

- The ventilation systems operate whenever the classrooms are scheduled for occupancy.

- When the ventilation systems are operating, the radon levels are significantly lower than during unoccupied periods when the ventilation systems are not operating.