

School Radon Testing Information Basics

What is Radon?

Radon is a cancer-causing, radioactive gas. You can not see, smell or taste radon. The U.S. Environmental Protection Agency (U.S.EPA) ranks indoor radon among the most serious environmental health problems facing us today. After smoking, it is the second-leading cause of lung cancer in the United States causing an estimated 21,000 lung cancer deaths a year. Radon can be found in any building, including schools. In fact, elevated levels of radon have been found in schools across the United States. Therefore, it is important that students, teachers and parents be aware that a potential problem could exist in their school, as well as their home. A nationwide survey of radon levels in schools estimates that nearly one in five has at least one schoolroom with a radon level above the action level of 4.0 pCi/L (picoCuries per liter) - the U.S. EPA's action level. The U.S. EPA estimates more than 70,000 schoolrooms in use today have elevated radon levels. Testing data for Ohio indicate **40 percent of Ohio schools have radon levels above 4.0 pCi/L.**

School Radon Protocol

Each school should obtain a copy of the Ohio Administrative Code and in particular 3701-69-07 Appendix A, Section (G) which outlines the requirements for licensees to test a school for radon. ODH has prepared a sample of a basic outline for schools to use to **begin** the radon testing process by developing a policy or protocol. To further the testing process and actually consider the performance of testing your school(s) for radon, you would need to consult the rules and the other publications listed in this document below.

- Section discussing if the school was constructed using radon resistant new construction techniques as described in the U.S. EPA publication **Radon Prevention in the Design and Construction of Schools and Other Large Buildings** [EPA 625-R-92-016, June 1994]
- Section describing the school's commitment for radon testing
 - Who will conduct the testing
 - Testing frequency
 - Retention of records
- Section describing the school's commitment for radon mitigation
 - Under what circumstances will the school mitigate elevated radon levels
 - Who will mitigate
- Section describing the school's commitment for reporting and record retention
 - Reporting of results to parents and ODH
 - Location of the records
 - Length of time the records will be maintained.

Radon Resistant New Construction

It is typically easier and much less expensive to design and construct a new school building with radon-resistant construction methods than to mitigate elevated levels of radon after a building has been constructed and occupied. For assistance in designing and constructing buildings using radon resistant techniques refer to the U.S. EPA's *Radon Prevention in the Design and Construction of Schools and other Large Buildings* publication. Once your school has been built with radon-resistant construction techniques, it is important to keep documentation of the methods used for construction and the post construction radon testing results.

Radon Testing

The only way to determine if a radon problem exists is to test. Conducting radon testing in schools can be a difficult task. A school may hire an ODH-licensed radon professional or use its own personnel to test. The task of radon testing in schools is more complicated than testing in homes. For example, licensed testers and mitigation specialist are required to develop and maintain a quality assurance project plan throughout the radon testing and mitigation process. A quality assurance project plan is unique to each school and includes how testing will be conducted as well as how quality assurance measurements will be taken and tracked. This gives the school a means of traceability, accountability and reproducibility to their radon test results. This quality assurance project plan is discussed in the documents referenced below. If a school chooses to use its own personnel to test, it is recommended these personnel attend radon measurement training. Information about radon measurement training is available by calling the ODH Radon Licensing Program at: 1-614-752-4425.

Radon Mitigation

After testing is performed and the results indicate radon levels above the action level of 4.0 pCi/L, the school must decide the next appropriate actions. ODH recommends that the school building administrator hire an ODH-licensed radon mitigation contractor to design and install a radon mitigation system. If a school chooses to use its own personnel to design and install a radon mitigation system, it is recommended these personnel attend radon mitigation training. Information about radon mitigation training is available by calling the ODH Radon Action Line at 1-800-523-4439.

Radon Publications

Additional information about radon testing and mitigation in schools, and radon-resistant new construction techniques can be found in the following publications available through the U.S. EPAs **National Center for Environmental Publications (NSCEP)**. Publications may be requested several different ways. Call **1-800-490-9198** (speak to an operator Monday through Friday, 11:00am-3:00pm EST; leave an order 24 hours a day). FAX **(301) 604-3408** (24 hours a day, 7 days a week). E-mail **nscep@lmsolas.com**. Documents may also be downloaded from the web site at <http://www2.epa.gov/nscep>.

Radon Prevention in the Design and Construction of Schools and Other Large Buildings.

It is typically easier and much less expensive to design and construct a new building with radon-resistant and/or easy-to-mitigate features than to add these features after the building is completed and occupied.

[EPA 625-R-92-016, June 1994]

Radon Measurement in Schools (Revised Edition)

This report has been prepared to provide school administrators and facilities managers with instructions on how to test for the presence of radon. The findings from U.S. EPAs comprehensive studies of radon measurements in schools have been incorporated into these recommendations. This report supersedes Radon Measurements in Schools - An Interim Report (EPA 520/1-89-010).

[EPA 402-R-92-014, July 1993]

Reducing Radon in Schools: A Team Approach.

This document will assist you in determining the best way to reduce elevated radon levels found in a school. It is designed to guide you through the process of confirming a radon problem, selecting the best mitigation strategy, and directing the efforts of a multidisciplinary team assembled to address elevated radon levels in a way that will contribute to the improvement of the overall IAQ of the school.

[EPA 402-R-94-008, April 1994]

Radon Measurement in Schools Self-Paced Training Workbook

The purpose of this workbook is to provide trainees with experience to plan a radon-test project for a school, interpreting those test results, implementing quality assurance during school testing and documenting the testing process for a school building. This workbook should be used by qualified personnel in conjunction with radon measurement training. **[EPA 402-B-94-001, October 1994]**

Many of these publications are in the process of being updated. Please call the ODH Radon Action Line at 1-800-523-4439 to find out when new publications become available or if you have any questions regarding radon.

Sample Radon Testing and Mitigation Policy

The U.S. EPA ranks indoor radon among the most serious environmental health problems facing us today. After smoking, it is the second-leading cause of lung cancer in the United States causing an estimated 21,000 lung cancer deaths a year. For this reason, [name of school or school district] has implemented the following radon testing policy.

New Construction

If a new school is built, the building will be built using radon-resistant new construction (RRNC) techniques as defined by U.S. EPA's publication **Radon Prevention in the Design and Construction of Schools and Other Large Buildings** [EPA 625-R-92-016, June 1994] .

Routine Testing

If the school was built radon resistant (and initial tests are within acceptable limits) or after an initial test of an existing building that indicates radon levels are within acceptable limits, each school building will be retested at least every five years.

If a test is performed on an existing school and radon levels are found to be at or above 4.0 pCi/L, [name of school] will develop a mitigation plan to reduce radon levels to acceptable levels. If installation of a mitigation system is necessary, [name of school] will employ an ODH-licensed radon-mitigation contractor to design and install a mitigation system and the building will be tested every two years.

If the building undergoes major renovation of the HVAC system or of the building structure, the building will be tested prior to the renovation and immediately upon completion of the renovation and there after at a frequency of every five years (with no elevated levels) or every two years (after mitigation for elevated levels).

Who can test and mitigate

[name of school] will employ or use only trained school personnel or an individual licensed by the Ohio Department of Health to conduct testing in our school.

If installation of a mitigation system is necessary, [name of school] will employ an ODH-licensed radon-mitigation contractor to design and install a mitigation system.

School/District Responsibilities

[person/position responsible] will be responsible for coordinating testing and mitigation, as necessary.

Reporting and Records Retention

Upon completion of testing (and mitigation, if necessary), the school will report radon levels and specifics of the mitigation to the ODH, Bureau of Radiation Protection at 246 N. High St., Columbus, Ohio 43215.

Records pertaining to testing and mitigation will be kept on file at [location of files] for a minimum of five years and then archived for another five years. After this time period, [building or district record retention schedule should be followed].

Superintendent
ODH 09/15

Effective Date