

Frequently Asked Questions about radon

CHRIS CURLES and ASSOCIATES Inc.
www.homeinspectionsatlanta.com

SHOULD ALL HOMES/ SCHOOLS/ WORK PLACES BE TESTED FOR RADON?

YES. Testing is the only way to know if you and your family are at risk from radon. The Environmental Protection Agency (EPA) and the Surgeon General recommend testing all homes.

WHAT IS RADON GAS?

Radon is a colorless, odorless radioactive gas which comes from the natural breakdown (radioactive decay) of radium, which is a decay product of uranium. Uranium and radium are both common elements in the soil. The Surgeon General has warned that radon is the second leading cause of lung cancer in the U.S. today. Only smoking causes more lung cancer deaths. If you smoke and your home has high radon, your risk of lung cancer is especially high.

WHERE IS RADON FOUND?

The major source of high levels of radon in homes is soil surrounding and under the house, particularly soil containing uranium. Radon is found all over the U.S. and the world. Some areas have more radon problems than others because of varying concentrations of radon-producing minerals in the soil, variation of soil types from one place to another and different characteristics found in individual homes. Radon problems have been identified in every state. EPA estimates that as many as 1 in 15 homes have elevated annual radon levels.

WHAT ARE THE HEALTH RISKS?

Almost all scientists agree that radon is a health hazard to humans and that it causes lung cancer. Risk calculation and the action level usually raise debate. The EPA has declared radon to be a "Class A Carcinogen," which means that it has been shown to cause cancer in humans. Radon gas decays into radioactive solid particles that can get trapped in your lungs when you breathe. As the particles break down further, they release small bursts of energy that can damage lung tissue and lead to lung cancer.

WHAT LEVELS ARE TOO HIGH?

Radon is measured in picoCuries per liter (pCi/L) of air. A picoCurie is a measure of the amount of radioactivity of a particular substance. A liter is about equal to a quart. The level of radon in outdoor air is about 0.4 pCi/L. The average indoor radon level is about 1.3 pCi/L. EPA has established 4.0 pCi/L as the action level for radon in homes, schools and workplaces. This is a technology-based number, not a health-based level. Current mitigation technology can generally reduce radon levels to 3.9 pCi/L or less. Since radon is a carcinogen, no level is completely risk-free. However, since it is a natural part of the environment there is no such thing as a "0" level.

HOW DOES RADON GET INTO MY HOME OR WORKPLACE?

Radon is a soil gas that typically moves up through the ground to the air above. Air pressure inside a home is usually lower than pressure in the soil around the home's foundation. Because of the difference in pressure, a house acts like a vacuum, drawing radon in through dirt floors, hollow-block walls, cracks in the foundation floor and walls, and openings around floor drains, pipes and sump pumps.

Any home may have a radon problem. This includes new, old, well-sealed or drafty homes, and homes with or without basements. Radon is generally more concentrated at lower levels,

like basements, ground floors and first floors.

WHEN IS THE BEST TIME TO TEST FOR RADON?

Anytime that windows and doors are normally kept closed is a good time to test. This is generally in the winter or summer months, when heating or cooling systems are running. For short-term tests, the house should be closed up for 12 hours before the test begins and throughout the test.

If a house has been unoccupied and closed up for several months, the result may more closely approximate what the radon levels would be with people living in the house if the temperature in the house is allowed to return to the normal living range.

HOW SHOULD THE STRUCTURE BE PREPARED FOR A RADON TEST?

Providing "closed house conditions" during short-term tests means that all windows are kept closed, and doors are kept closed except for normal entry and exit. Heating and air conditioning units can be operated as long as they do not introduce outside air. Exhaust or attic fans should not be used. These conditions should be maintained for twelve hours prior to initiation of the test, then throughout the remainder of the test.

CHRIS CURLES and ASSOCIATES Inc.
www.homeinspectionsatlanta.com

chriscurl@comcast.com

(O) 770-493-0227

(C) 404-797-4123

(F) 770-985-5050

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For a copy of the standards of practice for the GAHI and ASHI go the following links:

ASHI: <http://www.ashigeorgia.com/standards/standards.pdf>

GAHI: <http://www.gahi.com/sop.html>