WHAT IS RADON?

Frequently Asked Questions

The following information is provided by the EPA. More information about radon can be found by visiting the EPA's radon site at http://www.epa.gov/radon/

What is radon?

Radon is a cancer causing, radioactive gas. It comes from a natural breakdown of uranium in the soil, rock and water and gets into the air you breathe. Radon typically moves up through the ground to the air above and into your home through cracks, expansion joints and other holes in the foundation. I have never heard of radon. Is it really that dangerous? You cannot see, smell, or taste radon. But it still may be a problem in your home. When you breathe air containing radon, you increase your risk of getting lung cancer. In fact, the Surgeon General of the United States has warned that radon is the second leading cause of lung cancer in the United States today. If you smoke and your home has high radon levels, your risk of lung cancer is especially high.

Is radon really as dangerous as cigarette smoke?

Radon is regarded as a Group A carcinogen; that is, it is known to cause cancer in humans with prolonged exposure. It has been shown in carefully controlled studies on animals, and on hard-rock miners, and most recently confirmed in residential case-control studies, that the effects of radon gas can significantly increase the potential of lung cancer. The United States Environmental Protection Agency and Surgeon General recommend that people not have longterm exposures in excess of 4.0 pico Curies per liter (pCi/L). The EPA estimates that radon causes thousands of cancer deaths in the U.S. each year. Radon is estimated to cause about 21,000 lung cancer deaths per year, according to EPAs 2003 Assessment of Risks from Radon in Homes (EPA 402-R-03-003). The number of deaths from other causes are taken from the Centers for Disease Control and Preventions 1999-2001 National Center Injury Prevention and Control Report and 2002 National Safety Council Reports.

Why should I test for radon?

Nearly one out of every 15 homes in the United States is estimated to have an elevated radon level (4pCi/L or more). Elevated levels of radon gas have been found in homes in your state. Contact your state radon office for more information about radon in your area. The EPA recommends fixing your home if the results of one long-term test or the average of two short-term tests show radon levels of 4pCi/L or higher. With todays technology, radon levels in most homes can be reduced to 2 pCi/L or below. You may also want to consider fixing if the level is between 2 and 4 pCi/L.

What type of tests are available? The most common type of radon testing devices are passive devices. Passive radon testing devices do not need power to function. These include short term devices such as charcoal canisters and long term devices such as alpha-track detectors. Both short and long term testing devices are generally inexpensive. A short-term test remains in your home for 2 days to 90 days, whereas a long-term test remains in your home for more than 90 days. All radon tests should be taken for a minimum of 48 hours. A short-term test will yield faster results, but a long-term test will give a better understanding of your homes year-round average radon level. Types of Tests: The type of test you deploy may depend on the ultimate objective of the occupant. A short term test will provide information about the potential for radon in a home. A long term test is better able to predict the risk of exposure over a longer period of time. A long term test will provide results with a big picture risk of exposure over a longer period of time factoring in many conditions that can impact your actual test result such as wind events, air temperatures, winter conditions and open windows. How does Radon enter your home? Radon typically moves up through the ground to the air above and into your home through cracks and other holes in the foundation. Your home traps radon inside, where it can build up. Common ways for radon to enter your home are as follows: 1. Cracks in solid floors 2. Construction joints 3. Cracks in walls 4. Gaps in suspended floors 5. Gaps around service pipes 6. Cavities inside walls 7. The water supply

I'm selling a home. What should I do?

The EPA recommends that you test your home before putting it on the market and, if necessary, lower your radon levels. Save the test results and all information you have about steps that were taken to fix any problems. This could be a positive selling point. A potential buyer may ask for a new test, especially if: 1) The last test is not recent, e.g. within two years; 2) You have renovated or altered your home since you tested; or 3) The buyer plans to live in a lower level of the house than was tested, such as a basement suitable for occupancy but not currently lived in; 4) State or local government requires disclosure of radon information to buyers.

If I find a home with a radon problem, should I look for another home?

If a properly performed test indicates an elevated level of radon in the home you wish to purchase, it is highly possible other homes in the same area will have elevated radon. So, if you like the house, consider taking a reasoned approach that will confirm levels and reduce the radon. Perhaps the best news about radon is that radon can be reduced, either before you buy the home, or after you buy it and move in. Caution to buyer: If you want to insure that the radon mitigation system is installed to your standards you may consider overseeing the work yourself. A Seller would have incentive to look closer at cost than quality and in certain situations may make decisions that would differ from your decision. Radon testing is simple. Here is a common scenario for potential homebuyers: 1. Find the house you

want to buy 2. As part of the home inspection process, request a short-term radon test, using a qualified radon measurement professional. Your home inspector may or may not be qualified to conduct radon testing. 3. If the short-term test result is 4.0 pCi/L or higher, then consider asking the seller to fix it, or consider purchasing the home and performing a long-term test to determine what the actual exposure is. 4. Once you decide to reduce the radon in the house, seek bids from qualified contractors who are willing to guarantee and warranty results. 5. Use bids from contractors to either fix the home prior to moving in, or after you take possession. Bids can be used as a basis for negotiations or even establishing escrow funds that can be used to mitigate the house once elevated levels have been confirmed. Of all the problems a house may have, radon is one of the easiest to identify and fix!

I'm buying a home. What should I do?

The EPA recommends that you know what the indoor radon level is in any home you consider buying. Ask the seller for any and all previous radon test results. If the home has a radon-reduction system, ask the seller for any information they have about the system. If the home has already been tested for radon If you are thinking of buying a home, you may decide to accept an earlier test result from the seller or ask the seller for a new test to be conducted by a National Environmental Health Association (NEHA) qualified radon tester.

Before you accept the sellers test, you should determine the following:

- The results of the previous testing;

- Who conducted the previous test; the homeowner, a radon mitigation professional, or some other person; • Where in the home the previous test was taken, especially if you may plan to live in a lower level of the home. For example, the test may have been taken on the first floor. However, if you want to use the basement as living space, test there; and

- What, if any, structural changes, alterations, or changes in the heating, ventilation, and air conditioning (HVAC) system have been made to the house since the test was done. Such changes might affect radon levels. If you accept the sellers test, make sure that the test followed the EPA and test manufacturers recommended protocol for deploying the test. If the home has not yet been tested for radon Make sure the radon test is done as soon as possible. Consider including provisions in the contract specifying:

- Where the test will be located (If your house has multiple foundation types or slab systems, we highly recommend testing not only in the lowest livable area of the house but also above each independent slab system and/or crawlspace within the house. Radon entry can take place in each of these areas independently thus mitigating lowest livable area may not lower the overall radon to safe levels); • Who should conduct the test;

- What type of test to do;

- When to do the test;

- How the seller and the buyer will share the test results and test costs (if necessary); and

- When radon mitigation measures will be taken, and who will pay for them. Make sure that the test followed the EPA and test manufacturers recommended protocol for deploying the test.

I'm buying or building a new home. Are there advantages to installing a system during construction?

Yes. Installing a passive system during construction has several advantages:

- Most Effective System: Installing a system during construction is the most effective way to reduce radon within the structure. Installation at this point allows the mitigator the opportunity to be part of the construction process. At pre-designated intervals the mitigator will incorporate all aspects of an ideal system.

- Aesthetic Benefits: Plumbing and fan units can be incorporated as part of the structure and hidden.

- Make Upgrading Easy: Installing them at the time of construction makes it easier to reduce radon levels.

- Moisture and other Gases: The radon-resistant techniques may also help to lower moisture levels and reduce other soil gases.

- Energy Efficiency: When installed properly and completely, radon resistant techniques can also make your home more energy efficient and help you save on your energy costs.

My home has tested high for radon, now what do I do?

If you have confirmed that your home has elevated radon levels 4 pico curies per liter (pCi/L) or higher you will need to complete the following: 1. Select a qualified radon mitigation contractor to reduce the radon levels in your home 2. Determine an appropriate radon reduction method with your contractor 3. Have the appropriate radon reduction system installed 4. Perform post mitigation testing to verify the radon levels have been effectively reduced 5. Maintain your radon reduction system and inspect the system monitor periodically