

Understanding the Pennsylvania Radon Action Level for Safer Homes

What the Pennsylvania Radon Action Level Means for Homeowners

Living in York, Pennsylvania, means enjoying a rich history and a strong sense of community. But for many homeowners here, there is a hidden concern that often goes unnoticed until it is too late: radon. This naturally occurring radioactive gas can seep into homes from the soil, and its long-term exposure is linked to serious health risks. The EPA has established a guideline known as the action level, and Pennsylvania has its own specific benchmark that residents should understand. The Pennsylvania radon action level is set at 4 picocuries per liter of air, a threshold that signals when a homeowner should take steps to reduce radon levels. This number is not arbitrary; it is based on years of research and data collected across the state, including right here in York County.

Radon is a tricky problem because you cannot see, smell, or taste it. The only way to know if your home has elevated levels is to test. Many people assume that newer homes are safe, but radon can enter any building through cracks in the foundation, gaps around pipes, or even through well water. In Pennsylvania, the geology includes uranium-rich soils that break down into radon, making the issue particularly relevant. The Pennsylvania radon action level is the trigger point where the EPA and state health officials recommend installing a mitigation system. But what does that mean for a typical homeowner in York? It means taking action to protect your family, and it starts with a simple test.

Testing Your Home: The First Step

Before you can know if your home exceeds the [Pennsylvania radon action level](#), you need accurate data. The most common approach is to use a radon test kit. These kits are affordable and widely available at hardware stores or online. They come in two main types: short-term test and long-term test. A short-term test typically lasts between two and seven days and gives you a quick snapshot of radon levels. It is useful for initial screening, but because radon levels can fluctuate with weather and seasons, a long-term test that runs for three months to a year provides a more reliable average.

I have seen too many homeowners in York skip the testing step altogether, assuming their home is fine because their neighbor's house tested low. Radon levels can vary dramatically from one house to the next, even on the same street. The only way to know is to test. If you are planning to buy or sell a home, a radon inspector can perform a professional test that meets EPA protocols. For existing homeowners, doing it yourself with a certified kit is straightforward. Place the kit in the lowest livable level of your home, such as the basement, and follow the

instructions carefully. Once the test is complete, send it to a lab for analysis. The results will tell you the radon concentration in picocuries per liter, and you can compare it directly to the Pennsylvania radon action level.



When Levels Are High: Mitigation Options

If your test results come back at or above 4 pCi/L, it is time to consider mitigation. The most effective method for most homes in York is sub-slab depressurization. This technique involves creating a suction point in the concrete floor of your basement or crawlspace and using a radon fan to draw the gas from beneath the slab and vent it safely outside. The system relies on depressurization, which means the fan creates negative pressure under the slab, preventing radon from entering the living space. It is a proven solution that can reduce radon levels by 90 percent or more.

There are two broad categories of mitigation: passive mitigation and active mitigation. Passive mitigation relies on natural pressure differences and stack effect to vent radon, often using a pipe that runs from the sub-slab area to the roof without a fan. While less expensive to install, passive systems are less reliable, especially in colder months. Active mitigation, on the other hand, uses a radon fan to actively pull the gas out. It is the recommended approach for homes exceeding the Pennsylvania radon action level. A typical active system includes a suction pit dug below the slab, a network of pipes, a fan, and a manometer to monitor the system's performance. The manometer is a simple U-tube gauge that shows whether the fan is creating

enough vacuum. If the fluid levels are even, the system is working; if not, you may have a leak or a fan failure.

Sealant also plays a role. Before or after installing the mitigation system, it is wise to seal cracks and openings in the foundation. This includes gaps around utility lines, joints between walls and floors, and any visible cracks. Sealant alone will not solve a radon problem, but it helps the mitigation system work more efficiently by reducing the entry points for the gas. A smoke test can be used to identify hidden air leaks. An inspector uses a smoke pencil or similar device to see where air is moving, which indicates potential radon entry routes. Combining sealant with a well-designed mitigation system is the most thorough approach.

New Construction and Radon-Resistant Building

For those building a new home in York, there is good news. Modern radon-resistant construction techniques can prevent the problem before it starts. These methods include placing a layer of gravel or aggregate below the slab, installing a vapor barrier, and running a vent pipe from the sub-slab area to the roof. Even if you do not install a fan initially, the pipe can be capped and activated later if testing shows it is needed. This is sometimes called passive mitigation, but it is worth noting that many building codes now require these features in radon-prone areas. The Indoor Radon Abatement Act, passed in 1988, laid the groundwork for state-level programs and public awareness. Since then, Pennsylvania has been proactive in educating homeowners and builders about radon risks.

Seasonal Considerations and National Radon Action Month

Radon levels tend to be higher in winter when homes are closed up and the stack effect is stronger. If you test only in the summer, you might get a misleadingly low reading. That is why the EPA recommends testing during colder months for a more accurate picture. January is National Radon Action Month, a time when health departments and nonprofits encourage testing and mitigation. In York, local events and discounts on radon test kits are common during this period. It is a good reminder to check your system if you already have one, or to buy a kit if you have never tested.



I have spoken with many homeowners who installed a mitigation system years ago and forgot about it. The manometer should be checked periodically to ensure the fan is running. If the fan fails, radon levels can creep back up without anyone noticing. A simple glance at the manometer once a month can save you from long-term exposure. Also, if you renovate your basement or add an addition, retesting is wise because changes to the foundation can alter radon entry points.

Final Thoughts on the Pennsylvania Radon Action Level

Understanding the Pennsylvania radon action level is not just about following a guideline. It is about making an informed decision for your home and your health. The level of 4 pCi/L is a benchmark, but even lower levels carry some risk. The EPA notes that no level of radon is risk-free, but the action level gives a clear point at which mitigation becomes strongly recommended. For homeowners in York, where the local geology and older housing stock make radon a real concern, testing and mitigation are worthwhile investments. A radon test kit is a small price to pay for peace of mind, and a professionally installed mitigation system can add value to your home while protecting your loved ones. The key is to take that first step: test your home, know your numbers, and act if needed.