

# Rachel's Environment & Health News

## #100 - Despite What You May Suspect, The Danger From Radon Is Real

October 23, 1988

The federal EPA (U.S. Environmental Protection Agency) announced in midSeptember that 1/3 of all U.S. homes may contain dangerous levels of radon, a colorless, odorless, tasteless cancer-causing gas created by nature. The agency said as many as 20,000 Americans may be dying each year from lung cancer caused by radon in homes. They said all homes should be tested for the presence of radon.

Coming 60 days before the election, the announcement looked political. But we believe our readers should take this threat seriously. Here's why:

There can be absolutely no doubt that radon causes lung cancer in humans. An epidemic of lung cancer is now sweeping through the men who worked the uranium mines in our Western states from 1940 to today. European miners show similar cancers from similar exposures. Radon gas is not something you want to breathe and it is not something you want your children to breathe.

Radon is a natural hazard, but this does not make it safe by any means. Radon is formed by the naturally-occurring radioactive decay of uranium, an element that occurs in all soil (more in some soils, less in others). Radon is heavier than air, so it tends to collect in low places that are poorly-ventilated, such as basements. Newer homes may be especially prone to a buildup of radon because they are often designed with poor ventilation as an energy-conservation measure.

The EPA has probably not overestimated the danger from exposure to particular levels of radon. What the agency may have overestimated is the amount of radon in peoples' homes. The agency's tests generally occur during the winter, when people keep their houses zipped up against the cold. Therefore the agency's tests may have overestimated the average exposures that people endure because the average must take into account both winter and summer conditions.

Nevertheless, the radon problem is something we should each evaluate in our own homes, including apartments below the 3rd floor. You can get a quick (one-day to one-week) sample of the air in your home tested for radon for about \$10.00, but a sample of the air taken over a longer period (90 days to a year) is much more reliable for showing you the average amount of radon in your home, which is what you care about. One high reading for a day or a week is cause for concern (it should prompt you to do a longer test) but it is not cause for panic. On the other hand, a low reading for one day or one week does not prove there's no danger. It is the long-term average that will create the cancer risk, so that is what you want to know about.

The Reagan Administration (and certain state governments, such as New Jersey's) would have you believe that the radon problem is so serious that you should forget about the toxic chemicals in your air and water. This is dangerously false. At a minimum, the hazard from radon in your home will be added to the danger you face from chemicals. Worse yet, there is abundant evidence from cigarette-smoking uranium miners that the effects of radon and some chemicals may be multiplied, creating a combined hazard much worse than the two hazards added together. This is called synergism and there is a definite synergistic effect between the chemicals in tobacco smoke and radon gas. Therefore, the radon danger should make us redouble our efforts to rid the environment of toxic chemicals; nature provided the earth with a background level of hazards [radon, cosmic rays, black widow spiders, to name a few], so we should work hard to prevent greedy humans from adding industrial hazards and making the situation worse.

Therefore, though we believe Mr. Reagan hoped the radon announcement would take your mind off the toxic chemicals that his EPA has failed to control over the last eight years, we believe radon should be taken very seriously by people who care about their health. The radon threat should be evaluated house by house. This

problem has been known in New Jersey and Pennsylvania since 1984 and we have studied it closely. We firmly believe the danger is real.

We think the New York Times gave good advice when they suggested that their readers contact a company called Air-Check, Box 2000, Arden, NC 28704; phone (704) 684-0893. Air-Check will sell you one short term [charcoal canister] test for \$9.95, or 3 short tests for \$24.95. [Check the basement and typical living areas, such as living room and a bedroom.] They sell 3 of the longerterm, more reliable [called alpha track] tests for \$49.95 and this is the test we recommend. These tests are simple. They mail you a canister about the size of a can of shoe polish. You set it in your home for the recommended time period, then mail it back. They analyze it and send you the results along with an explanation.

The EPA says 4 picoCuries of radon per liter of air is "safe," but they also admit that this is four times the natural background level, and that 4 picoCuries is the equivalent of getting 200 to 300 chest x-rays per year or smoking 1/2 a pack of cigarettes per day. They say 1% to 5% of the people exposed to such a level 75% of the time for 70 years will develop lung cancer. We believe the federal standard should be cut in half; in truth, we favor reducing the level inside homes to background (one picoCurie per liter). And of course no one should use tobacco at all. We favor a law requiring alpha track testing for any house that's sold.

Ventilating a home with fresh air is the right antidote to the radon hazard. If you find excessive radon in your home, it can be fixed easily for an average cost of \$500 to \$1000. Don't panic, don't move out, and don't be afraid to buy a house. But above all, don't ignore the problem just because it was Mr. Reagan's EPA who brought it to light.

To learn more about the problem in your area and to find reliable people who can advise you on testing and mitigation, contact the American Association of Radon Scientists and Technicians, a trade group: P.O. Box 70, Park Ridge, NJ 07656; phone (201) 391-6445.

Recently, Bernard Cohen, a pro-nuke scientist at University of Pittsburgh, has been saying he has evidence that a little radon (between 1 and 4 picoCuries per liter) may actually be good for you. [For example, see SCIENCE NEWS Vol. 134 (Oct. 15, 1988), pg. 254.] This is an interesting theory, but it's definitely not something you want to bet your health or your children's health on. Be safe; test for radon, then mitigate.

--Peter Montague

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### A CALL TO ACTION: THE GREAT LOUISIANA TOXICS MARCH

Some people are talking about it and some people are DOING it. There's a huge group in Louisiana that's DOING it. Five organizations are sponsoring a 9-day, 70-mile march from Baton Rouge to New Orleans, Nov. 11 to 20 through Louisiana's "cancer alley." Along the way they've planned actions that will highlight the problems and will bring folks together. Try to be there! More on this next week.

For information, contact Darryl Malke-Wiley, The Sierra Club, 3227 Canal St., New Orleans, LA 70119; phone (504) 822-8760.

--Peter Montague

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