



# THE SSE ELUCIDATOR

*"Elucidate: to give clarity through explanation and analysis."*

## RADON: A FORGOTTEN HAZARD

Radon comes from the natural (radioactive) breakdown of uranium in soil, rock, and water. It typically moves up through the ground to the air above and into buildings through cracks and other holes in the foundation. Radon can enter a building through a variety of openings including:

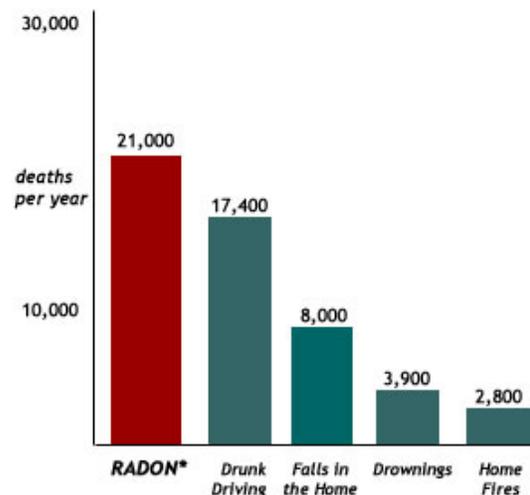
- ◆ Cracks in solid floors
- ◆ Construction joints
- ◆ Cracks in walls
- ◆ Gaps in suspended floors
- ◆ Gaps around service pipes
- ◆ Cavities inside walls
- ◆ The water supply

Radon can be found all over the U.S., in any type of building. The gas becomes trapped inside and can build up to dangerous levels. People are most at risk to radon exposure in their own homes where they spend the most time. Any home can have a radon problem including new and old homes, well-sealed and drafty homes, and homes with or without basements. Nearly 1 out of every 15 homes in the U.S. is estimated to have elevated radon levels.

Because radon is a cancer causing gas that you can not see, smell, or taste, EPA recommends that you test your home for radon gas. According to EPA's 2003 Assessment of Risks from Radon in Homes, radon is estimated to cause about 21,000 lung cancer deaths per year, with only smoking respon-

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sible for more lung cancer deaths. Smoking combined with radon is an especially serious health risk.

Testing is the only way to know if unhealthy levels of radon are present in your home and it is quick, easy, and inexpensive. Winter weather months are the best time to test your home for radon. EPA recommends first taking a short-term test. A short-term tests remain in your home for two days to 90

## RADON: A FORGOTTEN HAZARD

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days, depending on the device and is less likely than a long-term test to tell you your year-round average radon level. The amount of radon in the air is measured in pico-Curies per liter of air, or pCi/L. If your short-term test result is 4 pCi/L or higher take either a follow-up short-term test or take a long-term test. A long term test stays in your home for more than 90 days and will give you a reading that is more likely to tell you your home's year-round average radon level. If after taking either of the follow-up tests, your home again reads higher than 4 pCi/L, you should consider fixing your home. The average indoor radon level is estimated to be about 1.3 pCi/L, and about 0.4 pCi/L of radon is normally found in the outside air. Most homes can be reduced to 2 pCi/L or below.

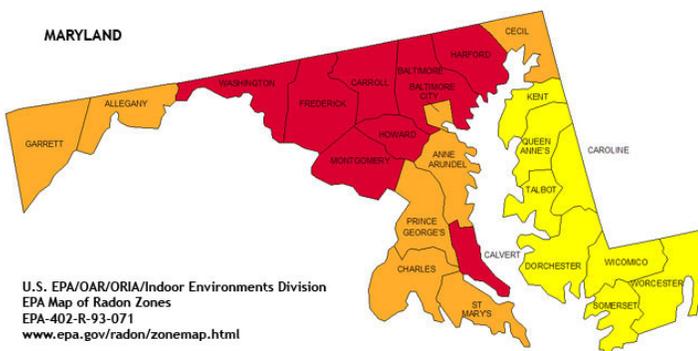
Maps of the three potential radon zones in the United States are available through the EPA website at <http://www.epa.gov/radon/zonemap.html>. While the maps are not intended to be used to determine if a home in a given zone should be tested for radon, the maps can assist National, State, and local organizations to target their resources and to implement radon-resistant building codes. Because homes with elevated levels of radon have been found in all three zones, all homes should be tested regardless of geographic location. However, by examining Maryland's state map, clearly residents of

Frederick are in the zone of highest potential risk of radon above 4 pCi/L in their homes (red zone 1).

There are several proven methods to reduce radon in your home, but the right system depends on the design of your home. The primary method used is called a soil suction radon reduction system and is a vent pipe system and fan that pulls radon from beneath the house and vents it to the outside. This system does not require major changes to your home and costs an average of \$2100 for a contractor to fix, however this depends on the extent of the radon problem. In addition, sealing foundation cracks and other openings makes this kind of system more effective and cost-efficient. If you are considered remodeling an unfinished basement into a living space, it is especially important to test the area before beginning renovations.

*“If you are considering remodeling an unfinished basement into a living space, it is especially important to test the area beforehand.”*

Because lowering radon levels in your home requires technical knowledge and special skills you should use a qualified contractor that can study the radon problem and determine the best treatment method to fix the problem. Check with your state radon office for names of qualified or state certified radon contractors in your area. You can find your state radon office by visiting at [www.epa.gov/iaq/wherelive.html](http://www.epa.gov/iaq/wherelive.html). Additional information about the risks of radon and radon reduction in your home can be found at <http://www.epa.gov/radon/pubs/citguide.html#contacts>.

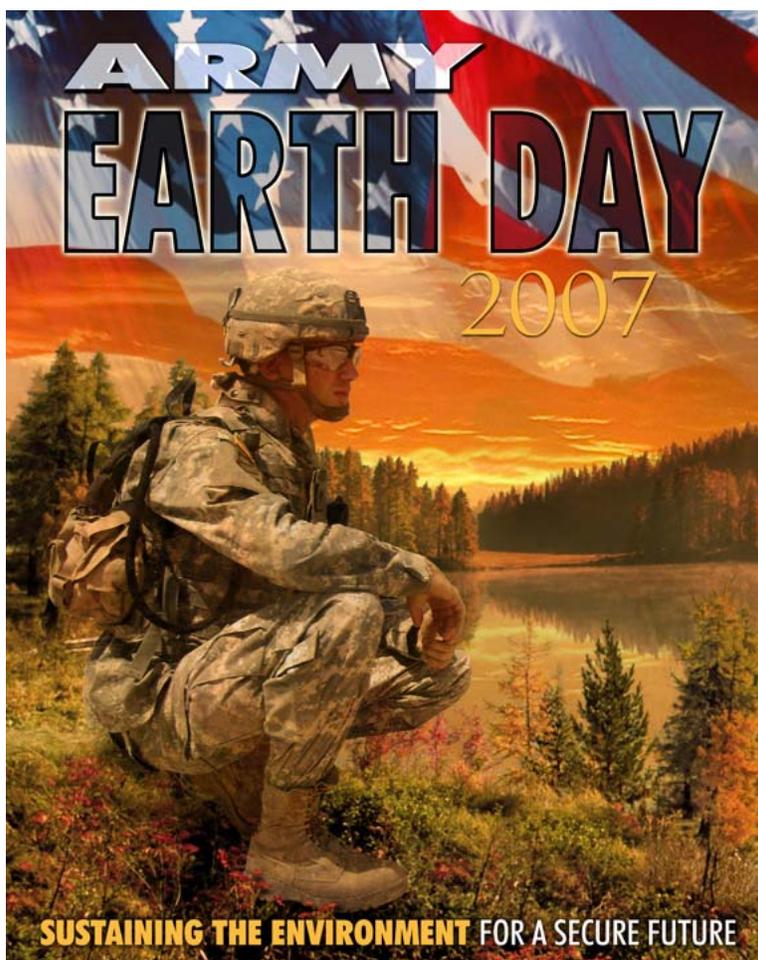


## EARTH DAY 2007

*Mark your calendars in celebration of Earth Day April 5, 2007!*

Fort Detrick will hold it's annual Earth Day Celebration at the HOT Dome.

Join us from 1000-1400 for food, games, displays, and much more!



All USAMRMC staff are invited to attend or volunteer.  
For additional information or to volunteer please contact:  
JoLane Souris at 301-619-2004 or [jolane.souris@amedd.army.mil](mailto:jolane.souris@amedd.army.mil)

For those unable to attend Fort Detrick's celebration, check with your environmental management office for Earth Day events scheduled at your Post.

## ENVIRONMENTAL AWARENESS TRAINING



The U.S. Army's Environmental Strategy for the 21st Century is to focus efforts on pollution prevention, reduce or eliminate pollution at the source, conserve and preserve natural resources, and continue to restore previously contaminated sites. Environmental awareness is the U.S. Army's commitment to ensuring that training and other activities cause minimal harm to the environment. Therefore, environmental-awareness training provides anyone who performs actions with environmental implications

*"The Army is committed to environmental stewardship in all actions as an integral part of the Army mission"*

to understand, accept, and support environmental requirements. Environmental implications encompass choosing to recycle your soda can to generating hazardous wastes.

The Army is required to comply with many, complicated laws that govern the use of its installations. The Army has several regulations that require appointment and training of environmental Compliance Officers, as well as general environmental awareness training to all Army personnel.

As a supplement to Federal, state, and local environmental laws, Army Regulation (AR) 200-1 provides a brief overview of environmental programs intended to preserve, protect, and restore the quality of the environment. The

regulation also integrates pollution prevention, natural and cultural resources, and the National Environmental Policy Act (NEPA) into the Army Environmental Program.

AR 200-1 requires Installation Commanders to train installation personnel to perform their jobs in an environmentally responsible manner. AR 200-1 deals with environmental protection and enhancement by defining environmental program objectives and assigning management responsibilities. It requires tenant and unit commanders to appoint trained Environmental Compliance Officers. Specifically, section 1-29c(5) requires Federal and non-Federal tenants to "appoint and train (an) environmental compliance officer(s) to ensure operational compliance and coordination with installation environmental staff." Additionally, section 1-32f requires unit commanders to "appoint and train environmental compliance officers at appropriate organizational levels to ensure compliance actions take place."

Because all Army personnel that perform actions with environmental implications or consequences are required to receive sufficient environmental training to ensure performance in compliance with environmental regulations or laws, anyone with questions about their environmental training should contact their installation environmental management office to identify where and when various training opportunities exist.



## WINTER STORM PREPARATION

A major winter storm can last for several days and be accompanied by high winds, freezing rain or sleet, heavy snowfall, and cold temperatures. People can become trapped at home, without utilities or other services. The aftermath of a winter storm can have an impact on a community or region for days, weeks, or even months.

Winter storms are considered deceptive killers because most deaths are indirectly related to the storm. Exhaustion and heart attacks caused by overexertion are the two most likely causes of winter storm-related deaths. Elderly people account for the largest percentage of hypothermia victims. Many older Americans literally freeze to death in their own homes after being exposed to dangerously cold indoor temperatures, or are asphyxiated because of improper use of fuels such as charcoal briquettes, which produce carbon monoxide.

To prepare for the possibility of a winter storm, stay informed by listening to NOAA Weather Radio and your local radio and TV stations for storm warnings. It's important to know the difference between a winter storm watch or warning so that you can plan appropriately.

- ◆ A winter storm WATCH means a winter storm is possible in your area.
- ◆ A winter storm WARNING means a winter storm is headed for your area.
- ◆ A blizzard WARNING means strong winds, blinding wind-driven snow and dangerous wind chills are expected.

In the event of a winter storm watch, avoid unnecessary travel. About 70 percent of winter storm deaths are related to automobile accidents. In the event of a winter storm or blizzard warning, stay indoors, dress in warm layers, eat regularly to provide the body with energy to produce its own heat, and drink lots of liquid such as warm soup broth or

juices to prevent dehydration. It is important to conserve fuel during a



winter storm because severe weather can last for several days placing a great demand on electric, gas, and other fuel distribution systems (fuel oil, propane, etc.). Suppliers of propane and fuel oil may not be able to replenish depleted supplies during severe weather. Electric and gas services may be temporarily disrupted when many people demand large amounts at the same time. Lower the thermostat to 65°F during the day and 55°F at night. Close off unused rooms, stuff towels or rags in cracks under doors, and cover windows at night to prevent warm air from dispersing. If the pipes freeze, remove any insulation or layers of newspapers and wrap pipes in rags. Completely open all faucets and pour hot water over the pipes.

After the winter storm event ends, continue to listen to the news for updated information and instructions about road closings. Continue to avoid driving until road conditions have approved so that emergency vehicles and snow removal services can work more efficiently. Check in on neighbors that might require special assistance in emergency situations, such as elderly people, disabled people, and families with small infants. Avoid overexertion while shoveling snow. Cold weather puts an added strain on the heart. Unaccustomed exercise such as shoveling snow or pushing a car can bring on a heart attack or make other medical conditions worse. Heart attacks from shoveling snow are a leading cause of deaths during the winter. Check out <http://www.hooah4health.com/environment/seasonal/default.htm> for additional winter storm preparation guidelines.

## HEARING LOSS AND PREVENTION



Noise is not a new hazard. It has been a constant threat since the industrial revolution. While the industrial and technological revolution may have propelled society to higher levels of achievement, this progress has also made the world a noisier

place in which to live. In fact, noise pollution is everywhere, from car alarms, leaf blowers, mechanical spaces, generators, and traffic congestion. Noise is one of the most common causes of hearing loss, and one of the most common occupational illnesses in the United States.

The Army has a very robust Hearing Conservation Program (HCP) which protects the employee from hearing loss due to occupational noise exposure. Potentially harmful

*“Hearing loss is 100% preventable, but once acquired, it is permanent and irreversible”*

noise is not necessarily unpleasant or unwanted. The music at a concert or the pounding of a jackhammer on the street can be equally damaging to the inner ear. Continued or repeated exposures to high intensity sound can eventually lead to acoustic trauma to the ear. This trauma can result in hearing loss, ringing in the ears (tinnitus), and occasional dizziness (vertigo), and nonauditory effects, such as increases in heart rate and blood pressure. Noise-induced hearing loss is preventable. Although hearing normally declines with age, the average, healthy, non-noise-exposed person can have essentially normal hearing at least up to age 60.

Some of the warning signs of the presence of or exposure to hazardous noise are as follows:

- Inability to hear someone three feet away
- Pain in your ears after leaving a noisy area
- Ringing or buzzing immediately after exposure to noise
- Sudden difficulty understanding speech after exposure to noise; you can hear people talking but you can't understand them

Elements of the HCP include: noise hazard identification, engineering controls, hearing protectors, monitoring audiometry, health education, enforcement of wearing of the HCP, and program evaluation.

**Identify noises above 85 decibels** – Noises above this range are regulated by OSHA and the Army and can include jet engines, lawn mowers, dogs barking, chainsaws, and personal stereos. The noise is probably in this range if you have to raise your voice to shout over the noise to be heard by someone within an arm's length away. An Industrial Hygienist (IH) will monitor for noise levels in the workplace to determine exposure. Any area and/or equipment considered a noise-hazard must be appropriately marked with danger and caution signs and decals. Engineering controls such as noise barriers or mufflers, can reduce the noise level. If there are no engineering controls, administrative controls such as rotating personnel is the next step. The last effort will be to ensure personnel wear proper hearing protection such as earplugs or earmuffs.

**Hearing tests** –Employees who are exposed to noise above the 85 dba time-weighted average will be entered into the HCP. Each employee in the program must be evaluated annually to determine if there is any hearing loss and attend annual hearing conservation health education briefings. An identified hearing loss is considered an occupational illness and must be reported on the OSHA mishap log maintained in the Safety Office.

## HEARING LOSS AND PREVENTION

**Responsibilities** – Supervisors must prepare a standard operating procedure (SOP) detailing the HCP in the specific area; notify the IH of any suspected hazardous noise levels or changes in hazardous noise levels in work areas; provide appropriate hearing protectors, free of charge, to noise-exposed personnel; ensure employees receive annual audiograms; and attend annual hearing conservation health education briefings.

Employees are required to adhere to all aspects of the HCP such as wearing the hearing protection, report for scheduled annual medical exams, attend annual education briefings, and report for termination hearing tests no later than 2 weeks prior to termination of employment.

**Become informed** – The Hearing Conservation Program is identified in the DA PAM 40-501. If you have any questions or suspect you are being overexposed to noise levels, please contact your Command Safety Manager who



can assure that you are being protected when necessary from hearing loss due to occupational noise exposure by noise level monitoring, annual audiograms and training, and proper use of personal protective equipment.

## UPCOMING COURSES AND SEMINARS

**Title:** 2007 Joint Services Environmental Management (JSEM) Conference

**Location:** Columbus, OH      **Date:** 5/21/2007-5/24/2007

**Description:** The 2007 JSEM Conference is a comprehensive summit on the evolving world of environment, energy, and geospatial information within DoD. The object of the conference is to highlight the many new and innovative ways the DoD, other Federal agencies, states, the defense industry, and our partners are meeting our mission needs while protecting the environment. This year will feature energy-related topics, fossil fuel alternatives, and geospatial information management.

**Web:** For more information visit <http://www.jsemconference.com/2007/index.htm>

**Title:** American Biological Safety Association (ABSA) 50th Annual Biological Safety Conference

**Location:** Nashville, TN      **Date:** 10/7/2007-10/10/2007

**Description:** ABSA's annual Biological Safety Conference is designed to keep members informed of current biosafety issues and regulatory initiatives. The submission deadline for abstracts is May 5, 2007. ABSA's goals are to promote biosafety as a scientific discipline and serve the growing needs of biosafety professionals around the world. All topics that relate to these goals will be considered, with an emphasis on original research or applied biosafety presentations.

**Web:** For information or registration visit <http://www.absa.org/confsem.html>

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***Reminder***

*For all accidents, no matter how minor,  
specific forms documenting the incident must be submitted to your Safety Office.*

*Military: DA Form 285-AB-4*

*Civilian: DOL Claims Forms CA-1 or CA-2*

*All employees requiring medical attention must visit your local Occupation Health Clinic as soon as possible post mishap.*