



HEALTH
PHYSICS
SOCIETY

PERSPECTIVES AND RECOMMENDATIONS ON INDOOR RADON

POSITION STATEMENT OF THE HEALTH PHYSICS SOCIETY*

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Contact: Richard J. Burk, Jr.
Executive Secretary
Health Physics Society
Telephone: 703-790-1745
Fax: 703-790-2672
Email: HPS@BurkInc.com
<http://www.hps.org>

Radon is a colorless and odorless radioactive gas that is and always has been a natural component of the air we breathe. Radon is produced by the radioactive decay of radium, a naturally occurring radioactive element that is found in trace amounts in all soils as well as building materials, plants, animals, and the human body. Although scientists have been aware of radon for many years, it was not until recently that it was realized that the largest radiation exposures received by most individuals comes from natural sources of radiation, primarily radon and its radioactive decay products. This new understanding of the role of radon has led to anxiety over radiation exposures among members of the general public and considerable and often inaccurate statements in the media.

The Health Physics Society encourages public understanding of the potential risks from radon, and recommends that exposure to radon and its radioactive progeny be minimized in accordance with practical considerations, taking into account applicable technical, economic, and societal factors. To assist the public, health officials, educators, and the media, the Society offers the following seven observations and recommendations on the topics of radon exposures, risks to health, and national abatement programs.

1. **Provide the Public with Realistic Expectations.** The assumption that radon contributes significantly to the total number of lung cancers may be reasonable, but cigarette smoking is still, by far, the major cause of lung cancer and will completely dominate the incidence of this disease for the foreseeable future. Only after many years would a successful radon abatement program begun today be likely to reduce the number of lung cancers, and then only by a very small percentage of the total.

2. **Base Priorities on the Likelihood of Exposure.** The Environmental Protection Agency should review its emphasis on the use of 4 picocuries on radon per liter of air (pCi/L) as an action level. Rather the EPA should emphasize the prompt identification on indoor occupied areas with very high radon concentrations (i.e. tens of pCi/L and greater) as candidates for prompt mitigation. The

EPA and other responsible public health officials should encourage appropriate radon testing to identify suitable candidate buildings.

3. **Inform Homeowners of the Benefits of Radon Reduction.** The EPA and other public health agencies should provide realistic information on the potential benefits of radon reduction in homes, based on the actual lifetime radon exposure that will be avoided. The potential synergistic effects of cigarette smoking and other air pollutants should be included in this information. Homeowners should be informed that the benefits to individuals from radon reduction are not necessarily based on the initial radon concentration, but rather the degree of reduction achievable and other factors related to home occupancy and smoking habits.

4. **Inform Elected Officials of the Benefits of Radon Reduction in Schools and Other Public Buildings.** Elected officials should be provided with realistic information on the benefits, costs, and practicality of radon reduction in schools and other public buildings. Evaluation of potential benefits should include consideration of the number of people exposed, and the magnitude and expected long term effectiveness of exposure reduction. The Health Physics Society encourages elected and other officials to make decisions regarding abatement based on measurements that are representative of conditions of normal occupancy.

5. **Appeal to Reason Rather Than Emotion.** Education of the public should be based on reason, rather than on emotion. In particular, the Society condemns the use of fear and other emotional scare tactics to overcome apathy or encourage action on the part of homeowners and other members of the public. Enhancement of the already present and lamentable radiation phobia in the public may easily have unexpected and undesirable repercussion such as reluctance to undergo valuable and potentially beneficial medical procedures due to an irrational fear of radiation effects.

6. **Redirect the National Radon Abatement Program.** The EPA should place its major emphases for radon abatement in three areas: 1) radon resistant design for new construction; 2) identification and mitigation of the highest indoor radon exposures -- i.e. homes, schools, hospitals, and other public buildings with radon concentrations of tens of pCi/L or greater; and 3) assistance to the real estate industry and mortgage lenders in developing improved programs of radon testing and abatement as necessary at the time of property transfer.

7. **Encourage and Support Additional Research.** Although we know a great deal about radon and its potential effects on health, there is still much we do not know and could benefit from learning. The EPA and other governmental agencies concerned with radiological health should encourage and fund additional research by competent qualified scientists to improve our understanding of the risks of radiation and the means to mitigate those risks.

* The Health Physics Society is a non profit scientific professional organization whose mission is to promote the practice of radiation safety. Since its formation in 1956, the Society has grown to approximately 6,000 scientists, physicians, engineers, lawyers, and other professionals representing academia, industry, government, national laboratories, the department of defense, and other organizations. Society activities include encouraging research in radiation science, developing standards, and disseminating radiation safety information. Society members are involved in understanding, evaluating, and controlling the potential risks from radiation relative to the benefits. Official position statements are prepared and adopted in accordance with standard policies and procedures of the Society. The Society may be contacted at: 1313 Dolley Madison Blvd., Suite 402, McLean, VA 22101; phone: 703-790-1745; FAX: 703-790-2672; email: HPS@BurkInc.com.