PROJECT facts

STATE INDOOR RADON PROGRAM
SCIES

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Project Background

Radon is a naturally-occurring radioactive gas that, when allowed to accumulate inside buildings, contributes to an increased risk of lung cancer. In 1989, the US EPA through Congressional action, established the State Indoor Radon Grant (SIRG) program in response to a discovery of elevated indoor radon levels in 1985. Major thrusts of this program are to assess indoor radon levels, increase public awareness of radon, and to reduce health risks associated with indoor radon.

Phase I and II

For the first six years of this project, activities focused on assessment of indoor levels, and public education programs. Surveys of homes in all counties of SC have been performed and a relative risk potential map has been developed. Schools in approximately 15 counties have been evaluated. Seminars and exhibits were held throughout the state to increase public awareness, and to demonstrate measurement and mitigation techniques.

Phase III

SCIES entered the SIRG project at Phase III. The emphasis of this phase was two-fold: 1) Expand the program into a comprehensive indoor environment program, and 2) to improve indoor environments through outreach programs designed for professionals involved with all aspects of construction and maintenance; from conception, to design, to construction, to sales, to operations.

EPA as well as other partners involved with this project have realized that solutions to existing and future radon problems are similar if not identical to solutions for other indoor environmental hazards and concerns. The approach of this program has correspondingly shifted from a single item to a comprehensive program addressing several indoor environment issues.

Though the general population awareness program is still one facet of the program, emphasis shifted to building professionals in Phase III.

Primary Project Partners

South Carolina Institute for Energy Studies
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South Carolina Department of Health and Environmental Control
Columbia, SC

US Environmental Protection Agency Region IV
Atlanta, GA

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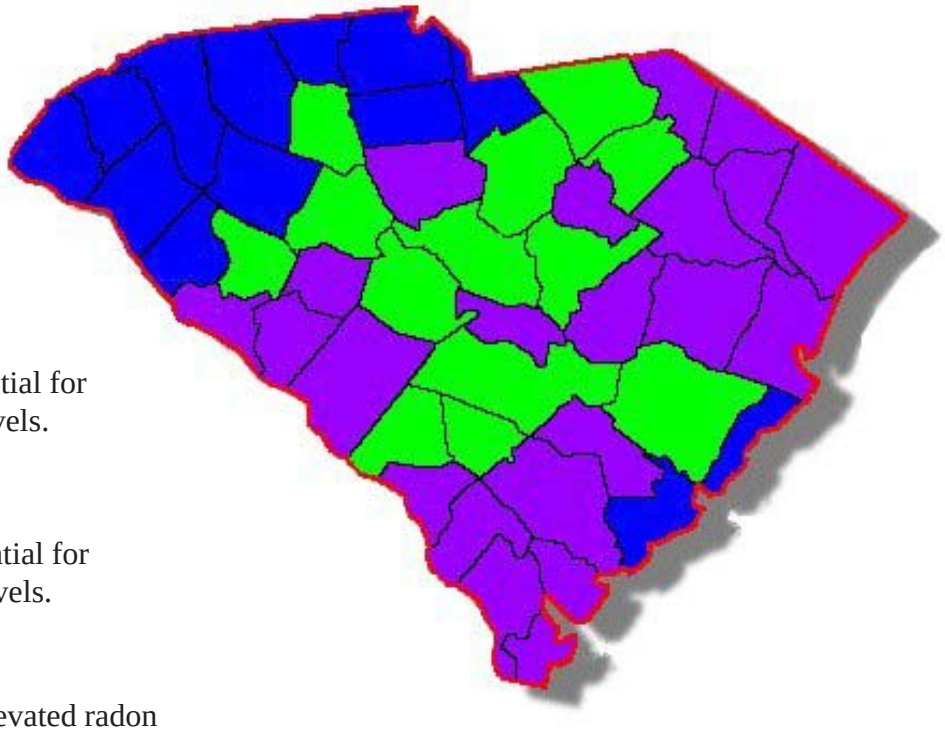
Programs and seminars for architects, builders, code officials, trade groups, home inspectors, real estate professionals and others involved with the design, construction and maintenance of buildings were offered. These programs emphasized buildings as systems, and the effects components or changes to components have on other components. Using this systems approach, building professionals will be able to construct and maintain buildings that are healthier for the occupants, and more energy efficient.

Radon is drawn into buildings by pressure differences between inside and outside. These pressure differences, created by thermal buoyancy, natural ventilation, forced ventilation and building exhaust systems, help contribute to collection and concentration of other soil gases, moisture, termiticides, lawn chemicals, and inside pollutants like formaldehyde, volatile organic compounds, and combustion gases inside buildings. Elevated concentrations of these compounds or excess ventilation rates result in unhealthy environments and increased energy consumption.

Figure 1. SC Map of radon potential zones.



Zone 1
The highest potential for elevated radon levels.

Zone 2
A moderate potential for elevated radon levels.

Zone 3
A potential for elevated radon levels, but less on average than Zone 1 or Zone 2.