



Local Efforts to Reduce Radon Risks

**Highlights and
Lessons Learned**

Long-term exposure to indoor radon can be deadly. Radon is the leading cause of lung cancer for non-smokers, and second only to smoking for the entire population. The U.S. Environmental Protection Agency (EPA) estimates that more than 20,000 Americans die of radon-related lung cancer every year. Radon is a colorless, odorless, naturally occurring radioactive gas. Radon seeps into homes and buildings through cracks in the foundation or walls, and can accumulate over time in homes that are not properly vented. The Surgeon General issued a health advisory for radon in 2005, stating that millions of homes have elevated radon levels. The advisory encourages everyone to test their home for radon every 2 years, and to retest after moving, making structural changes, or occupying a previously unused level of a house. EPA recommends that people take action if they find radon at levels greater than or equal to 4 picoCuries per liter (pCi/L). Visit www.epa.gov/radon for more information on how to test your home for radon.

The good news is that when elevated radon levels are found they can be reduced, and new homes can be built using easy and inexpensive radon-resistant construction techniques. EPA encourages the building and real estate communities and all new home buyers to demand radon-resistant new construction (RRNC).¹ EPA also urges people to test their homes for radon, and to install systems to vent radon from their homes if they find levels at or exceeding the 4 pCi/L action level.

¹EPA estimates that radon-resistant techniques applied to new construction cost an average of \$350 to \$500, although it is important to recognize that variability in pricing is inevitable depending on material costs, new code requirements, existing code requirements, and locality.

Local Efforts to Reduce Radon Risks: Highlights and Lessons Learned

In the stories below, you will read about people who educated their families, neighbors, colleagues, and communities, and challenged local builders, governments, code enforcement officials, and others to protect the public from indoor radon. These stories make clear that protecting public health from indoor radon requires a community effort. They also show that one person armed with facts, persistence, and a commitment to health and safety can change minds and motivate action to reduce the harmful effects of radon. EPA hopes their efforts inspire others to take action.

Illinois: School Science Lesson Inspires Students to Environmental Policy Advocacy

Success: Teachers and Students Efforts to Reduce Radon Risks Strengthens Residential Building Permits

When Deborah Clinebell set out to teach her eighth-grade science class in Waterloo, Illinois, about atomic structure, she had no idea that choosing radon as the subject would turn into a lesson about far more than chemistry. Expanding her traditional chemistry lecture to include information about the environmental health effects of radon, Deborah told her students about increased lung cancer risks when radon levels inside homes increase. When she informed the students that 46 percent of the houses tested in their home county of Monroe had radon at or above EPA's 4 pCi/L action level, their overwhelming interest convinced Deborah that an opportunity for interdisciplinary learning was at hand.

Deborah's lesson on atoms quickly turned into an exercise that touched on communications, broadened to math, and spread to civics. She and her students began by writing letters to school families about simple in-home radon tests that convinced some 200 students and teachers to test their homes. Deborah then enlisted the help of her colleague—math teacher Carrie Stewart—who, with a group of junior high students, compiled and analyzed the radon data. They posted the test results online so that other math and science classes could retrieve them. Armed with their own real test results and spreadsheet software, the students learned how to statistically analyze data. And they learned something about the scientific method and repeatability when their results showed that 34 percent of the homes they tested

for their project had radon levels above 4 pCi/L, confirming the previous finding that radon is a serious issue in their community.

Deborah and Carrie were also acquainted with the National Center for Supercomputing Applications (NCSA) at the University of Illinois at Urbana-Champaign. They knew that the NCSA's Education, Outreach, and Training Division develops programs for educators, engineers, and scientists to help them disseminate advanced technologies as learning tools in K-12 schools. Recognizing that the students' growing interest in radon issues perfectly fit with the Center's mission, Deborah and Carrie initiated a partnership with the Center, which gave the eighth graders access to a geographic information system (GIS). This GIS technology enabled the students to create maps of their survey area and actually see how the radon concentrations were distributed.

Deborah's students showed an overwhelming interest in her assignment. Her lesson on atomic structure quickly turned into an exercise on communications, math, and civics.

Encouraged by their results and the continued enthusiasm of their teachers, a team of students at Waterloo Junior High decided to compete in Project Citizen, a national civic education program open to fifth through eighth graders. Coordinated in Illinois by the Constitutional Rights Foundation of Chicago, Project Citizen provides students with an opportunity to learn how to monitor and influence public policy and promotes civic participation among students, their parents, and members of the community. Eric Major, a Waterloo's civics teacher, coached the students and helped them develop a proposal to require that short-term radon tests be conducted in all homes before they are sold. Eric presented the students' proposal to the Mayor of Waterloo. Impressed with their analysis, presentation, and excitement, the Mayor referred the students' draft proposal to the Waterloo Health Committee. Upon the Committee's recommendation, the Mayor officially passed a resolution on November 1, 2004, affirming that the town of Waterloo understands the risks of radon and recommends short-term radon testing. After a second year of testing, another Project Citizen team prepared an even more ambitious proposal, which Eric also presented to the Monroe County Board of Commissioners. The students' proposal was unanimously approved and, as a result, all residential building permits in Monroe County include two new elements about radon: (1) information

about the health risks of radon and (2) recommendations for building new homes using Radon Resistant New Construction (RRNC) techniques.

Their understanding of the health risks of radon and the inspiration of a chemistry teacher, a math teacher, and a civics teacher made a big impact on the learning experience of junior high students in a small town in southwestern Illinois. Deborah Clinebell, Carrie Stewart, and Eric Major recognized and took advantage of the valuable educational opportunity that the radon issue provided. Through their NCSA partnership, Deborah and Carrie developed a Web-based learning module that junior high school science and math teachers across the country can replicate. They helped NCSA design a customizable lesson plan that schools can use to analyze residential radon levels in their local communities. Their module teaches students to apply the scientific method to gather data; design data analyses to answer a specific scientific question; use computer technology to analyze the data (spreadsheets and GIS); post data to an online database for sharing; and create a visually effective presentation of the results. The Waterloo Junior High experience that began as a simple lesson on atomic structure demonstrates how enthusiastic teachers and students can educate their communities and influence public policy to reduce radon-related health risks.

Habitat for Humanity: One Woman Changes Policy to Include RRNC for New Homes

Success: A Popular, Influential Charity Now Provides Education and Support to Reduce Radon Exposure

Jennifer Langton is the Environmental Resources Specialist at Habitat for Humanity International. She is also a champion of RRNC. Jennifer's introduction to the health risks of radon occurred when she read about a new Habitat program funded by EPA, the Healthy Homes Program. The program's goal is to educate construction staff and homeowners about indoor air quality and health issues, including the critical subject of radon. The connection between Habitat's commitment to provide decent and affordable homes and the need to keep homes safe by preventing indoor radon risks was immediately apparent. And so began Jennifer Langton's quest to educate herself and the Habitat community about radon.

Jennifer's search for radon information began much like that of any other person interested in environmental issues—she contacted EPA. She learned that certain

geographical areas tend to be at greatest risk. She also learned that an EPA regional radon training center was located in her backyard. The Southern Regional Radon Training Center (one of four across the United States) offers training for builders, realtors, architects, and others in the home building business on radon measurement and abatement. Jennifer arranged for the center to present information about radon and RRNC to Habitat volunteers and staff in the region. She also developed her own slide presentation that she uses when teaching Habitat construction staff around the country to recognize the importance of properly installing radon mitigation systems. She supplements her own presentation with technical information on proper installation from EPA and other sources.

Jimmy Carter's Work Project in Anniston, Alabama, was one of the first Habitat projects to benefit from Jennifer's

efforts to reduce radon risks. Knowing from her research that parts of Alabama have a particularly high risk of elevated radon levels, Jennifer contacted the Anniston project's Special Projects Manager—Scott Montjoy—to find out whether the project had considered radon as an issue. Scott acknowledged that RRNC techniques should be used for the 35 houses under construction, but he

also knew that the funding for the project was already set. Nevertheless, Jennifer was not about to be thwarted by lack of funding. She found the additional support needed to build all 35 homes with RRNC by partnering with the Alabama Extension Service's Radon program. The Extension Service became involved when Jennifer sought their help to equip every home in Habitat's Anniston Project with a radon-mitigation system. "Before my brain engaged with my mouth, I said, 'Why sure we can!'" recalled Sabrina Lyle, an Extension Radon Education Technician in Madison County. In just a few short

weeks, Sabrina built an impressive working partnership among several public and private organizations to secure

Jennifer immediately saw a connection between Habitat's commitment to provide decent and affordable homes and the need to keep homes safe by preventing indoor radon risks.

the needed funding to build 35 new houses with radon-resistant features. Sabrina's partners included the American Association of Radon Scientists and Technologists (AARST), the Southern Regional Radon Training Center, Radalink, Radon Control, Inc., Radonaway, and Fantech.

"This is really the first time Extension has worked with Habitat for Humanity to do a large-scale community development activity," said Dr. Harry Strawn, an Alabama Cooperative Extension economist and Radon program coordinator. "We have the opportunity to work with private industry and other organizations to help build a new community where one did not exist before, and that's community development at its best."

Jennifer Langton's perseverance in increasing radon awareness among Habitat builders and her demonstration that radon reduction should be and can be an integral part of all homebuilding projects has changed the way Habitat does business. Before her work, Habitat considered radon a separate issue. The volunteer organization now routinely covers the minimal additional costs to incorporate RRNC into new building projects in high radon risk areas. Radon education is now an essential part of Habitat's workshop training on general construction for local affiliates around the country and Habitat now promotes RRNC for all new construction projects nationwide. From a random sample of highest-producing affiliates in 2002, 36 percent of the houses Habitat built used RRNC. One woman's efforts have made a remarkable difference in how one highly visible organization addresses radon and its health risks.

Illinois: "Radon Rebate" Reduces Health Risks in East Moline

Success: City Mandates RRNC Building Plans and Provides Radon Test Kits to New Homeowners

When Tom Dickey—the Health Inspector of East Moline in Rock Island County, Illinois—began perusing his latest copy of the *Journal of Environmental Health*, an ad for a workshop on RRNC caught his eye. Tom knew that half the homes tested for radon in his county have radon levels above EPA's action level. So when the opportunity to learn more about radon's threat to public health arose, he decided to attend the workshop and explore what might be done to foster more awareness of and address radon-related health risks in East Moline.

Upon returning to East Moline, Tom was eager to share what he had learned. Fortunately, he found the perfect audience right next door. His office is next to the office

of Butch Motzer, East Moline's Plumbing and Heating Inspector. Tom's invitation to Butch to join him for a cup of coffee marked the beginning of a mutually supportive working relationship that became a key factor in the success of what was to become their community's radon initiative.

Tom's responsibility for public health protection and Butch's knowledge of plumbing and heating requirements in new homes proved to be a perfect complement. Tom's enthusiasm was immediately apparent to Butch, and the two city inspectors wasted no time in laying the foundation for a plan to get local builders to incorporate

RRNC into their projects. They began by listing the extra materials a builder would need to install a radon mitigation system. Using this list, they estimated the additional cost and realized the materials would add about \$150 to construction costs.

Thus was born the idea of the “Radon Rebate.” When contractors apply for new home permits in East Moline, they pay a standard fee. If contractors agreed to incorporate RRNC into their building plans, the city would deduct \$150 from the permit fees. The two saw this proposal as an all-around win: Contractors would lose no money on the projects, the city would pay no money for the effort, and the people of East Moline would know their new homes are most likely safe from the risk of radon.

When Tom and Butch presented their idea to East Moline’s Building Inspector, he supported it without hesitation and seconded their next planned move. They presented the plan to the City Council, where it met with unanimous approval. The Radon Rebate program was well on its way to helping East Moline address its radon risk.

Before a permit could be issued, contractors were required to meet with Tom, who gave them information from EPA on RRNC techniques. Tom took on the responsibility for completing three inspections at various stages of construction, including sharing radon information with the new homeowner as part of the final inspection. He also told homeowners that, even though their new home had been built using RRNC techniques, the absence of radon could not be guaranteed. Tom therefore recommended radon testing and, to reinforce this point, offered free radon tests.

Butch was busy too. He offered hands-on demonstrations to plumbers and contractors to show them how to install a radon mitigation system. Any resistance on their

part quickly disappeared once they saw how simple the installation was.

As a voluntary program, East Moline’s Radon Rebate program became hugely successful. Only a few builders did not take advantage of the rebate. When the community determined that the time was right to make the program mandatory, Tom and Butch paid a second visit to the City Council, this time with real results to demonstrate the success of the program. Their second presentation persuaded the City Council not only to support a mandatory program, but also to continue providing builders with the rebate. The Council also passed a requirement for the Health Department to offer radon test kits to homeowners within 6 months of building occupancy. By providing radon test kits to new homeowners, the Health Department could support assessments to determine how well the radon mitigation systems were working and could encourage adjustments if the systems were not functioning optimally.

The East Moline Radon Rebate program is an example of how a common sense initiative to improve environmental health met with support at every level of local government. The conscientiousness and innovation of two city inspectors resulted in a program that not only worked well for one small community in Illinois, but also made so much sense it practically promoted itself. Butch summed up the experience by saying, “All Tom and I did was go out for a cup of coffee. Who knew it would turn into something so big?”

“All Tom and I did was go out for a cup of coffee. Who knew it would turn into something so big?”

Massachusetts: Belchertown Responds Swiftly to High Radon Levels

Success: Radon Outreach, Testing, and Mitigation Protects an Entire School District

As the Director of Buildings and Grounds for the Belchertown School District in Massachusetts, Bob Lachance’s attendance at a Healthy Schools Network meeting was all in a day’s work. So when he set out for the meeting, he had no idea that hearing Bill Bell’s short presentation would ultimately catalyze school and town officials into an award-winning community effort to reduce elevated radon levels in his school system. After

hearing Mr. Bell—a radiation control officer with the Massachusetts Radiation Control Program—speak about radon, Bob was convinced that radon is an important issue for his community and that people would want to know about radon’s health risk and how to manage it. When he returned from the meeting, he arranged to have all seven of his school district’s buildings tested for radon. He called on the Massachusetts Department of

Belchertown's take-charge approach is a model example of a town's swift action to lower radon levels in its public schools.

Public Health for help and, working with Roger Perras and school facilities staff, placed and collected more than 400 radon tests and associated quality assurance tests throughout the school buildings.

When tests revealed elevated radon levels at the Swift River Elementary School, school officials responded quickly and decisively. Bob asked Bill to make a presentation to the teachers and staff about radon. Officials explained that the radon testing had been initiated as a screening

exercise—it was not prompted by any reports of health problems. They also reassured the staff that their evaluation and resolution of the high readings at Swift River would be thoughtful and thorough. Officials then met with parents for an open seminar the following week and sent a newsletter home with students to explain the situation. This communications effort paid off: “After some initial staff discomfort,” said Bob, “the Belchertown School District earned the trust of this community.”

With technical support from the Massachusetts Department of Public Health, the School District promptly installed several temporary sub-slab depressurization systems to prevent radon gas from entering the school. They documented the resulting reduction in radon concentrations with more than 3,500 hours of monitoring and some 250 passive radon detectors. Over summer break, the District installed five permanent mitigation systems. Today the school community in Belchertown can breathe more easily—radon readings at the Swift River School are now well below EPA's action level.

Belchertown's take-charge approach to radon testing, efforts to alert the school community to the findings without alarming them, and swift action to lower radon levels illustrate a model approach to protecting the public from exposure to radon. In January of 2005, EPA recognized school and town officials with a national award for outstanding work to reduce elevated radon levels in a school system.

Accepting the award for the school district, Richard A. Pazasis, Superintendent of Schools for Belchertown, said, “On behalf of everyone connected with the School District, I am proud that we are being recognized with this award. Belchertown consistently adheres to its number one district-wide goal to protect the health and safety of all students, school personnel, and visitors. This goal includes paying attention to the ever-changing environmental challenges that schools face. I thank everyone who worked with us to make this effort a success.”

Alabama: A Journalist and Doctor Team Up to Save Lives Statewide

Success: Perseverance to Reduce Radon Risks Moves City to Require Mitigation Systems in New Homes

Julie Dutton is a local County Extension Agent for Morgan County in Alabama. In 2001 when Julie informed the City of Decatur's Council members of the county's high radon risk and explained the serious health consequence of radon exposure, she touched off a two-year public debate on the city's building code. With the building industry lobbying against including RRNC in the new building code, the Council concluded that the cost of installing passive radon reduction systems was too high to impose on builders and new home buyers. The debate might have ended then, save for the efforts of a dedicated journalist at *The Decatur Daily* and a passionate doctor at the Decatur General Oncology Center. Instead, five other Alabama Counties ultimately followed Decatur's lead to require RRNC. Julie credits the

newspaper articles, saying that the proposed building code change “was tabled and tabled and tabled. If you want something to go away, just table it. The newspaper articles really made the difference.” (September 25, 2002, *The Decatur Daily*, online edition.)

Eric Fleischauer, an investigative reporter, sensed a story in the Council's opposition to the RRNC requirement and followed through on his journalistic hunch. From April to September of 2002, he wrote, and the *Decatur Daily* published, no fewer than 16 articles about radon and RRNC. To ensure the public understood radon-related health risk and was fully informed about the Council's ongoing debate, he wrote fact-based but provocative pieces with hard-to-ignore titles like, *A Silent*

Intruder: Should Radon be Considered in New Building Codes?, Radon Resistant Homes Make Good Sense, Council Tables Radon Ordinance—Again!, and People May Win Radon Battle over City Politics.

One *Decatur Daily* reader whose attention Eric captured was Dr. Lane Price. One of Eric's articles convinced her to enter the debate. She needed little coaxing. As Director of Oncology at the local hospital, she had seen firsthand the effects of lung cancer on her patients. And she was fully aware that the U.S. Surgeon General cites indoor radon as the second leading cause of lung cancer in the United States. Dr. Price's entry to the debate began with her publicly disputing the City Council's reasoning and the arguments being made with regard to building costs. For her, the public health aspect of the issue was sadly tangible—and addressing it was a local imperative. Dr. Price spoke about the health risk of radon exposure, the need to protect Alabamans, and about the thousands of people who die each year from lung cancer. She explained that for her, and the people of Alabama, the issue is about far more than costs and statistics. "I'm looking at one patient whom I know, whom I love. And who dies," Dr. Price said. She challenged the city and the homebuilders to do everything they could to protect the public from radon exposure in their homes.

Dr. Price later recounted that, "at one point, they told people they needed more studies. Now y'all, there are studies coming out your ears on radon. In this day and age information is easy to get. I called the City Council president and she said, 'No, it probably won't pass because nobody is interested in it.' They were all opposed to it."

But in the end the City of Decatur did become interested. Eric Fleischauer's persistence and Dr. Price's passion combined to convince the Decatur City Council to listen. Eric's articles focused public attention on the issue, making it impossible for the Council to continue tabling the discussion of RRNC requirements. Dr. Price's persistence encouraged the Council and the Mayor to reconsider their positions, and ultimately they

changed their minds. Mayor Lynn Fowler said, "I really think as we have gotten more information on this we understand the problem better. I think we don't want to jeopardize anybody's health. I support the radon installation at this time." About one month after Dr. Price's appearance in front of the City Council, the Council voted unanimously to require passive radon reduction systems in new one- and two-family homes.

In a *Decatur Daily* article published shortly after the requirement passed, Alice Rice of Alice Rice Builders said of the first passive radon reduction system she installed in a new home that "the additional cost of the system in the \$105,000 house is less than \$200." Within 4 months of the appearance of Eric's first radon article, nearly 1,000 Decatur residents tested their homes for radon. The radon concentration in more than 16 percent of those tests exceeded EPA's action level.

The effects of Eric Fleischauer's and Dr. Lane Price's efforts did not end at the county line. Shortly after the Decatur City Council adopted the requirement, RRNC dominated the agenda at a statewide meeting of health officials and county extension agents. The meeting focused on how to emulate Decatur's results in other cities. Dr. Price spoke to the group and described her role and that of the local media in moving public opinion and changing city policy. "This is how it can work in every city in Alabama," said Harry Strawn, the State Extension System Radon Program Coordinator. Mr. Strawn said he is optimistic that Huntsville and Madison will adopt the radon reduction requirement, adding "They have been watching Decatur closely. I think they needed to see that it was doable."

For Dr. Price, the public health aspect of the radon issue was sadly tangible—and addressing it was a local imperative.

Michigan: Leveraging Resources in a Media Campaign

Success: Outreach and Partnerships Turns Small Investment into Major Asset for Radon Awareness

Sue Hendershott—an Indoor Radon Specialist with the Michigan Department of Environmental Quality—knows that public awareness of radon risk is one of the most powerful tools available for reducing radon expo-

sure. In the early 1990s, the state had successfully used public service announcements (PSAs) to publicize information about the health risks from radon. The outreach efforts were halted, however, when state legisla-

In total, the state's \$75,000 investment led to \$750,000 worth of media coverage for radon issues.

tors objected to the use of tobacco tax money to pay for broadcasting. Still, Sue was convinced that revitalizing publicity on radon, preferably through television, was her best option. So when the Michigan Radio Network (MRN) contacted the Michigan Radon Program to sell air time, Sue may not have been overly enthusiastic, but she lis-

tened. And she became more interested when MRN told her that television PSA time had to be booked as much as 3 years in advance. Deciding that a radio spot now was better than no publicity for the next 2 to 3 years, she arranged for the Radon Program to purchase \$15,000 of air time from MRN to run radio PSAs for 2 weeks in January. MRN produced a radio ad at no extra cost and distributed it to 66 member stations (news/talk, sports/talk, country, oldies, etc.) that were slated to air it 52 times. With a total of 3,432 messages scheduled over 2 weeks, the radio campaign seemed promising.

Sue, however, was disappointed. Public inquiries about radon didn't increase during the advertising campaign. Still, because she knew that public awareness was the key to reducing radon risk, and that television has more impact on local awareness than any other broadcast medium, Sue renewed her efforts to secure television coverage of the radon issue in Michigan.

Sue contacted Denise Weston, director of the Non-Commercial Sustaining Announcements (NCSA) program, at the Michigan Association of Broadcasters (MAB). During their conversation, Denise was convinced that obtaining air time for such an important

health issue shouldn't be so difficult. Then, the idea hit her: Just as Sue recognized that informing and educating her stakeholders was the key, Denise believed that if her stakeholders—in this case the broadcasters—knew more about radon's health risk and had easy access to PSA materials, they would air them.

And so the two set out to educate and motivate local broadcasters. Their results were impressive. Sue purchased \$225,000 worth of television air time between January and March 2004 with \$75,000 from the Michigan Radon Program budget. Soon EPA's Emmy Award winning "People on the Street" Radon PSA was airing around the state.

Denise, by now a fully committed supporter of Sue's goal to increase public awareness of radon health risk, wanted to do more. She got a local recording company to develop two radio PSAs at no cost to the Michigan Radon Program, marketed the PSAs to her network of television and radio broadcasters, and secured an additional \$525,000 of donated air time to publicize radon health risk information and to encourage home testing. In all, the state's \$75,000 investment led to \$750,000 worth of media attention for radon issues. Although the advertising contract was slated to continue only through March, PSAs aired from late December on, and some stations continued to play the PSAs well into the summer. The PSA was aired total of 11,145 times from October 2003 through April 2004, more than twice the goal of 5,002 ads.

This time, there was no question about the success of the campaign. Thanks to the diligence and perseverance of a state radon specialist and a public broadcasting expert, the Michigan Radon Program received three times as many calls as its previous monthly record after the initial airing of the PSAs.

Illinois: Inspectors Use State Law to Save Lives

Success: City's Inspection and Outreach Leads to Proper Mitigation System Installation and Influences Other Cities

The state Residential Building Code in Illinois requires the installation of passive radon mitigation systems in new homes. Even though high levels of radon are found in Illinois, the code is not enforced statewide, allowing towns, provinces, and cities to either adopt it or ignore it. So in 2000 when the city of Yorkville decided to adopt the code and all of its appendices, Charles Riforgiate—the Head of the Yorkville Building and Safety Department—applauded the move. Charles had a hunch,

however. Even with required installation, he suspected that only about half of the radon mitigation systems would be installed correctly.

Not willing to let Yorkville's good intentions fail in the implementation process, Charles decided to make radon system inspections a priority. Now all new homes—approximately 800 homes each year—must pass inspection for a properly installed radon reduction system.

Charles did not stop there. In April 2004, he launched a radon awareness campaign aimed at area builders and developers. Charles was determined to reduce the number of Yorkville houses with radon problems by educating the building community about the serious health effects of radon exposure and by providing information on how to install passive radon reduction systems in all homebuilding projects. He began his training with his code inspectors, to help them identify incorrectly installed systems. Next, recognizing that most builders were simply unaware of a proper installation process, he concentrated on educating builders and developers. Since the push began to train city inspectors

and educate builders and developers, Charles estimates that 95 percent of the systems his staff inspects are now installed correctly. The 5 percent that fail must pass a follow-up inspection before being certified for occupancy.

Yorkville's success in adopting and enforcing the Residential Building Code has prompted nearby areas to follow suit. With Charles's help, the Safety Departments of all towns within a 30-mile radius of Yorkville have adopted the Residential Building Code, and that radius continues to expand.

Minnesota: Radon Rules “Sweeps Week” in Minneapolis

Success: Local Media and State Program Partnership Increases Awareness by the Thousands

In early 2004, the Minnesota Department of Health (MDH) was receiving somewhere between 70 and 100 phone calls per month about radon. When the local CBS affiliate in Minneapolis called looking for a public health story as sweeps week 2004 approached, everything was about to change. The Supervisor of the Department's Indoor Air Unit, Dale Dorschner, suggested that WCCO run a story on radon. Dale called on Joshua Kerber, who coordinates the MDH's radon program, and his staff to introduce the station's news producer to the public health hazards of radon in Minnesota. The program staff's presentations on radon-related health risks, average radon levels across Minnesota, the availability of radon mitigation services, and RRNC techniques were convincing. The news producer recommended that the station develop not one, but several segments on radon. The station wholeheartedly obliged.

During sweeps week, WCCO developed and arranged to air its first segment on radon's health effects and home testing options. Optimistic that the topic would pique the interest of its audience, WCCO coordinated with MDH to set up a phone bank at the television station to field calls from viewers about how to test and where to get free or discounted radon test kits. Describing radon as a serious threat, WCCO warned viewers that “it kills more people than drunk driving, fires, and drowning.” Within 2 hours of the story's airing, the phone bank received more than 600 calls and distributed a free test kit to each caller.

To handle the sustained heightened interest, MDH launched its own hotline and fielded over 1,000 calls. The week following the story, the Department received

more than 4,600 emails. Radon mitigators reported their appointment books were full after the first WCCO story, with some booked solid for a year. At the end of sweeps week, WCCO learned that their radon segment had put them in first place for viewers. Approximately 352,500 viewers watched the story, the largest single rating in the period and the largest response in station history. WCCO had no doubts that radon was a topic they wanted to pursue in greater depth.

WCCO's second episode on radon aired in December. This installment addressed radon concerns in new and old homes, revealing that many area builders were skeptical about radon as a threat in new homes. The story revealed that some builders mistakenly believed that radon exposure poses no serious health threat and that its source in older homes was aging appliances. WCCO also interviewed a local builder whose story had a different twist. Despite no legal obligation, he had already installed a system to prevent exposure to high levels of radon. Although radon mitigation can cost from \$800 to \$2,500 on an existing house, the system he installed during construction cost \$300, a cost he felt comfortable absorbing.

Attention to radon by the local CBS affiliate increased hits to the Minnesota Department of Health's Web site 10-fold in 3 months.

In February 2005, WCCO's third story about radon publicized their newly formed partnership with a national radon lab. While the first radon stories were getting airplay, the station was working another angle that left no doubt about their commitment to the issue. They convinced the lab to provide discounted radon test kits to all WCCO viewers. After that story was broadcast, more than 15,000 test kits were sold. WCCO's I-TEAM tracked the test results and found that high levels of radon occurred in every county where viewers tested. In fact, forty percent of the tests revealed levels of radon above EPA's action level. The highest level of radon reported was 240 pCi/L—60 times the action level! WCCO's collaboration with MDH led to the first comprehensive database compiled on radon levels in Minnesota since 1988. WCCO's attention to the radon story caused hits on MDH's Radon Web site to skyrocket from roughly 2,000 per month to 14,000 in December 2004; 7,173 in January 2005; and 23,231 in February 2005.

Although the debate continues over whether to include RRNC guidance in the building code, Dale has no doubt that the local media's attention to radon has had an undeniable impact on the state's radon program. The real estate and building industries' demand for MDH to provide continuing education courses on radon mitigation and RRNC has grown, and inquiries through the Radon Web site and hotlines remain high. Dale says the partnership with the media transformed the Minnesota Radon program. "Media attention made our program grow 20-fold, and the hard work and commitment of our staff has allowed MDH to respond effectively to increased public awareness of radon and interest in reducing its harmful effects."

Surgeon General Health Advisory

"Indoor radon is the second-leading cause of lung cancer in the United States and breathing it over prolonged periods can present a significant health risk to families all over the country. It's important to know that this threat is completely preventable. Radon can be detected with a simple test and fixed through well-established venting techniques."

—January 2005

