

Radon ReporterTM

Autumn 2018 | PRACTICAL INFORMATION FOR YOUR SUCCESS



#STOPRADON
and
AARST Strategy

**Opt-In To Change
Radon Mapping**

**Changes in NRPP
Device and
Proficiency**

**Myrtle Beach
Symposium
Highlights**



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Thanks to all who attended the Symposium. Throughout this issue, The Radon Reporter presents photos from this year's Symposium at Myrtle Beach.



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AARST™, the American Association of Radon Scientists & Technologists, is a nonprofit, professional organization dedicated to the highest standard of excellence and ethical performance of radon measurement, mitigation, and transfer of information for the benefit of members, consumers, and the public at large. AARST's leadership is democratically elected by the members.

AARST represents your voice as we meet the wide range of challenges facing radon professionals and the community. Your membership and participation provide you a voice in the changes to come, and allows you to gain updated information, discover new techniques, learn about new problems before they occur, and hone your professional skills.

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Letter from The President

By David Daniels, President, AARST

Hello fellow AARST members! Just a few weeks ago we were in Myrtle Beach attending the national symposium. I always enjoy attending; it is great to catch up with friends from around the country, meet new people, and visit the vendor booths. This year we had a record number of vendor participants and saw some exciting new products.

I am honored and humbled to follow Dr. Phil Jenkins as the new President of AARST. Remembering my first symposium in Reno many years ago, and where I was in my business, I would have never dreamed of becoming the President of this organization.

Born and raised in Wisconsin, I am an Air Force veteran and married with five children. I started my radon business in July of 2000. Since then, we have installed close to 20,000 systems and performed about 18,000 tests. I also began building homes about four years ago; each one comes with an active radon system.

Our industry is still very young, and we have a lot of work ahead of us. With the increase in home construction over the last 30 years, our industry has fallen behind on the number of homes that need to be tested and mitigated. We urgently need to grow our industry to help save lives and to reduce the number of lung cancer victims.

Radon-induced lung cancer is preventable. Every day that I get out of bed, I hope that we can help another family avoid lung cancer. I dread hearing about someone newly diagnosed with stage-four lung cancer, someone who never smoked. Someone whose doctor told them to test for radon, something they had never heard of before, only to find that their test reveals elevated levels.

My primary goal as President is to help raise awareness of radon. By doing this, more testing will be conducted, which will increase the number of mitigation systems installed and, in the process, help your businesses grow. We need to make sure that testers and mitigators have the proper education and training to handle that growth; that customers will get quality, accurate testing, and

when a system is needed, they will get top quality materials and expert workmanship to reduce their levels and provide protection for many years to come.

Another goal of mine is to enforce our ethics and standards for those who are certified with NRPP to test and mitigate. As in any

business, some unscrupulous people try to take advantage of the public. They are only in it for the money and do not believe in what they are doing. Of course, we all want to make a profit, but it should all be above-board. If someone is certified and they are putting fans in basements, or they are placing tests on the floor by an open sump pit, we need to know about it. When we see improprieties, we need to urge customers to file proper complaints so that action can be taken. We don't want to kick people out of the industry; we want to give anyone the opportunity to change and improve. Only those who refuse to follow the ethics and standards

should have their certification revoked.

A big goal for the board and staff, with Dallas Jones leading them, is getting our certification program accredited under ISO 17024. This will be a lot of work and take some time, but having the NRPP ISO accredited will give our organization more credibility, and will help our industry grow.

Lastly, I ask for your help. If you want to get involved with AARST, either in your area or at the national level, let me know. Could you teach a class? Would you help organize? Can you reach out to builders? AARST has committees that need you! You don't have to be a board member to be on a committee. Busy people get things done. If you are busy, we want your help! Have you donated to the PAC, ARPC, or a cancer support group with ties to radon? If not, please consider it. There are so many ways you can get involved with your industry.

We need to strengthen our industry, not in five or ten years, but now. We need to do whatever possible to share the message about the dangers of radon gas. Coming together, doing what you can, will grow our industry and help make AARST even stronger. ●



AARST believes we need a new federal radon law to support:

Citizen Protections

EPA - update radon action level

Workplaces - new section of OSHA rule or EPA clarify action level applies to workplaces

FHA, Fannie Mae, Freddie Mac - testing before home sale, buyer awareness/notification

HUD - awareness/notification for tenants in public/assisted housing

HUD - extend multifamily loan testing/mitigate policy to all zones

US Dept. Education - send testing/mitigation standards to school districts

Treasury / IRS - classify testing/mitigation as preventive medical expense

21st Century Infrastructure

EPA - update proficiency program standard for certification bodies to conform with current ISO 17024 requirements

EPA - recognize proficiency certification bodies that meet the standard

EPA with CDC - update and maintain radon risk information

EPA maps, CDC dataset - peer-reviewed study to update EPA's risk assessment

EPA - maintain lab-based capacity for national radon reference standard

EPA - recognize and promote current consensus standards

EPA - sponsor train-the-trainer to geometrically increase capacity

State and Local Leadership

EPA - award State Indoor Radon Grants: 5-year authorization, \$12 million/year consistent with purposes in FY 17 appropriations report

EPA - require grantee States to restrict mitigation and measurement to persons licensed or certified by an ISO accredited certification body

EPA - require grantees to pursue RRNC implementation, training, code enactment, partnership with code agencies

EPA, CDC and HUD - collaborate to disseminate radon publications and info to consumers, housing sector, and health care providers

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Radon Risk Reduction Authorization Bill *by Jane Malone*

Introduction

After several years of protecting EPA radon programs from budget cuts, AARST has decided to take on the challenge of strategically revamping federal radon policy to meet broader key targets. We introduced this plan during the widely successful Bill Convention at the Symposium in Myrtle Beach. This paper provides a closer look at why, what and how.

Background

Radon risk reduction represents an enormous public health opportunity in protecting occupants from indoor exposure to radioactivity. Lung cancer's health care and human costs, including lost work days and wages, exceed a million dollars per case. Radon control also presents business challenges and opportunities. Financial institutions and underwriters, risk management companies, home builders, real estate and home inspection professionals, virtually all who touch a building, note, deed, or related instrument as part of their business line, need the security of precluding radon risk before liability for occupant exposure comes back at them. At the other end of the spectrum, Main Street has a stake in radon since the radon professional sector consists mostly of small businesses and self-employed individuals, presently as many as 5,000 US workers, a number that might grow given stimulus from other sectors.

Radon Risk Reduction Is a Public-Private Partnership

The overall structure of the radon risk reduction movement involves an array of entities. The federal government, most notably through EPA, provided the original framework for baseline research, standards and proficiency and maintains vital resources such as fundamental publications and the laboratory-based radon reference. State radon programs deliver place-specific licensing requirements and EPA-funded education and outreach. States play a vital role in marshalling local health departments, state agencies, and others to communicate that radon is a serious health risk. A few states have implemented mandatory radon control in new homes and/or aggressive homebuyer warning. Private sector non-profit organizations have taken responsibility for authoring standards and managing two EPA-approved proficiency programs to ensure quality services and consumer protection. Radon testing and mitigation services are performed by radon professionals, many of whom are certified by proficiency programs and/or possess state licenses.

Protections Are Insufficient

Since the 1988 enactment of the Indoor Radon Abatement Act (PL 100-551) and radon-related provisions within the 1988 McKinney Act Amendments (PL 100-628), there have been several important efforts to protect families in the US from radon, but progress has been woefully insufficient. A few indicators of the dimensions of

the problem:

- Each year, 4.5 million existing single-family homes are sold but buyers in only a few states are testing for radon.

Only one of 3,000 US counties makes a radon test is mandatory for home sales

In 9 states, buyers receive a warning that suggests they test for radon

- Annually, less than 20% of newly constructed 400,000 single-family homes have radon-resistant protections
- Multifamily housing is tested for radon, but only when the property undergoes substantial refinancing.
- One out of every three states has functional oversight of radon service providers to assure that they are properly qualified to do the specialized work of mitigating radon gas entry and testing radioactivity levels
- 33 states have no oversight
- Since EPA's last publication of radon zone predictions, radon test results hundreds of counties indicate that the radon risk classification is higher than the zone map predicts.
- Over 70,000 school classrooms are estimated to exceed the EPA action level, however, there is no plan, strategy or funding to locate and remediate this radioactivity in the schoolhouse or classroom.
- The majority of the radon related deaths occur below the EPA's radon action level of 4 pCi/L.

Continued Federal Leadership Needed

The 1988 federal radon law set the table for national action and stimulated early infrastructure. Federal leadership, through congressional appropriations report language and executive branch action such as the Federal Radon Action Plans, has delivered important assets in the ensuing 30 years. However, progress to end radon-induced lung cancer has been minimal. As the national voice of radon professionals and private sector partner to EPA, AARST seeks continued federal leadership to fortify the public sector side of the business of radon risk reduction in the US.

There are three major components of AARST's concept for greater federal action: Delivering Basic Citizen Protections, Solidifying 21st Century Radon Infrastructure and Stimulating State and Local Leadership. The key elements are displayed on the prior page. ●

In this issue of The Radon Reporter, we present the Rationale and Specific Actions needed for Basic Citizen Protections – see next pg



Authorization Bill: Basic Citizen Protections

Radon Action Level - Expand the authority under the Indoor Radon Abatement Act, Section 2663, to require that EPA develop and a radon action level that is a health-based threshold for preventive action.

The Indoor Radon Abatement Act set the national goal of achieving indoor radon levels as low as the outdoor level, which is 0.5 picocuries per liter of air (pCi/L). IRAA instructed EPA in PL 100-551 (15 USC 2663) to publish a citizen's guide that includes a description of action levels indicating the health risk associated with different levels of exposure in buildings. EPA published the guide describing the action level of 4.0 pCi/L (148 bq/m³). The agency periodically updates other sections of the guide, but there is no process for updating the radon action level.

The current level of 4.0 pCi/L is not, and was not designed to be, a health-based threshold for preventive action. Indeed, among the reasons stated for this level is that it was the lowest level that was (1) reliably measurable by common portable equipment and (2) achievable through mitigation. Technological and mechanical development have rendered such rationales obsolete.

Any illusion about the protectiveness of 4.0 pCi/L is negated by the National Academy of Science's National Research Council's estimate that two-thirds of radon-induced lung cancers occur below this radon action level. The World Health Organization has established a recommended level for member countries' policies of 2.7 pCi/L. In 2018, the American Society of Heating, Refrigeration and Air Conditioning Engineers' revised consensus standard for green buildings (ASHRAE 189.1) requires radon level below the WHO level; this standard is now embedded in the 2018 edition of the International Green Construction Code.

Radon Standard Relevant to Non-Nuclear Workplaces - Clarify that the EPA action level shall apply to all buildings; and Revise OSHA's ionizing radiation regulations at 29 CFR 1910.1096 to add protection relevant to health effects and exposures in workplaces that do not have restricted areas.

The Occupational Safety and Health Administration's ionizing radiation regulation (29 CFR 1910.1096) addresses the risk of

ionizing radiation to workers in a "restricted area" where access is controlled by the employer for purpose of protecting individuals from exposure to radiation or radioactive materials. Such areas exist only where the employer possesses, uses, manufactures, or transfers sources of ionizing radiation, in locations such as health care facilities (e.g. radiology operations), research institutions, nuclear reactors, nuclear weapon production facilities, nuclear energy manufacturing settings, and the like. OSHA's exposure limit and testing and notification protocols only cover workplaces engaged in the course of business with ionizing radiation.

Radon exposure can occur in any workplace. The ground level and first floor of all workplaces, from elementary schools to retail stores, from day care centers to office buildings, are as likely to contain radon as a home. The OSHA standard for "restricted areas" is unprotective for most other workplaces, because the exposure threshold (100 pCi/L) is many times higher than the indoor radon level known to cause cancer (2 pCi/L) and even the EPA action level (4 pCi/L). Most workplaces do not have personnel monitoring radiation levels daily and do not have extra room to restrict worker access to some areas some of the time.

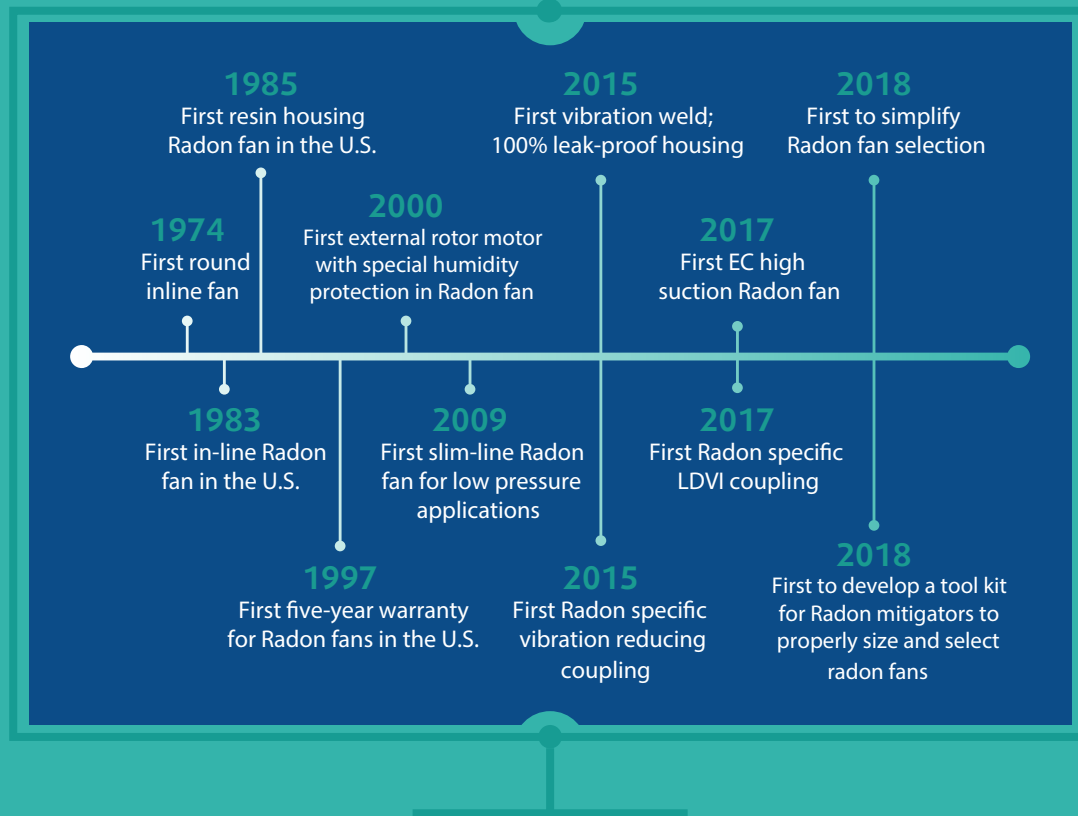
It is logistically impossible to expect non-nuclear workplaces to meet the OSHA radon standard, but action is needed to protect workers who spend 20-60 hours per week in buildings that may have high radon levels. Congress directed EPA to develop guidance for "buildings," not just homes; indeed, while a traditional interpretation and perception may be that the EPA action level is for homes, it applies to all buildings.

Home Testing and Homebuyer

Notification - Require, prior to execution of a real estate sales contract, that a single-family homebuyer borrowing a loan secured by FHA, Federal National Mortgage Association (Fannie Mae), or the Federal Home Loan Mortgage Corporation (Freddie Mac), be provided with a signed warning statement about radon, the result of a radon test completed by a radon professional within the previous year, any other radon-related information about the property under consideration, and a radon information pamphlet.

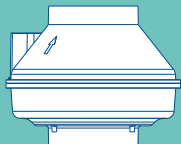
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Rn



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PFE Diagnostic Kit

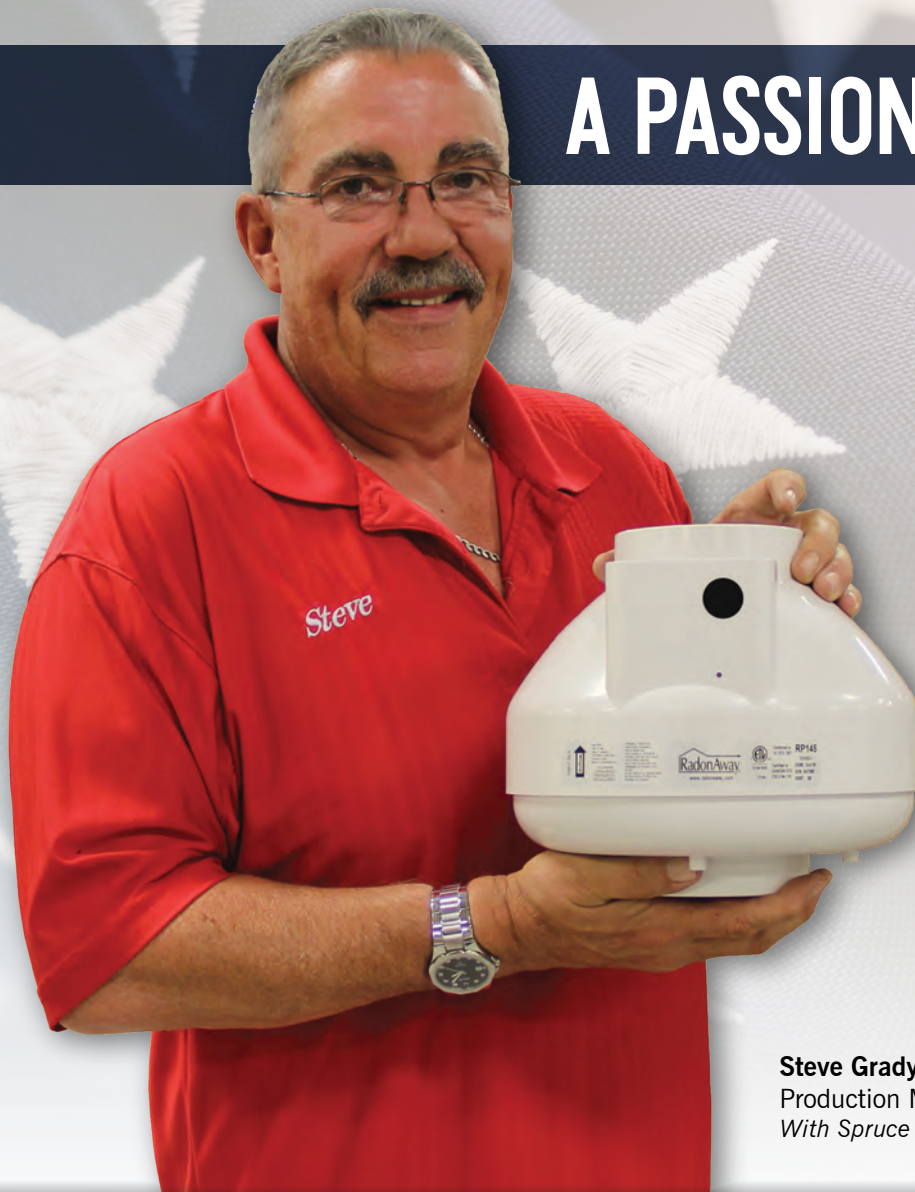
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Radon Risk Reduction Authorization Bill

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The time of home purchase is when many people focus on the quality of their home. The process, with loan applications, appraisals, inspections, multiple listings, and the likes gets buyers thinking about opportunities and risks. It is the ideal time to test for radon and fix any problem, yet there is no clear mechanism to inform buyers of this needed step and connect them to a means of testing before they make the purchase. Only one county in the US requires testing. Nine states require buyer notification with a warning statement, and other states are considering such practices. Notification will increase testing, which leads to identification and mitigation of high radon. A testing requirement will ensure testing occurs, allowing the buyer to present needed mitigation as a contingency or other point of negotiation with the seller. Awareness of a radon mitigation need is unlikely to interfere with completion of a purchase.

“The time of home purchase is the ideal time to test for radon and fix any problem”

Tenant Notification and Rental Property Testing

- Require that tenants of all federally owned or assisted housing be provided with a warning statement about radon, disclosure of radon-related information about the dwelling unit, and a radon information pamphlet; phase in testing and mitigation for public and Indian housing, and other subsidized properties.

In 1988 through PL 100-628, Congress directed HUD to develop and recommend “a policy for dealing with radon contamination that specifies programs for education, research, testing, and mitigation of radon hazards” in public and Indian housing and multifamily rental properties receiving project-based assistance or mortgage loan insurance. HUD implemented a comprehensive program affecting some

properties receiving mortgage loan insurance. HUD also issued a letter to public housing authorities recommending that they consider radon testing and mitigation but HUD developed no program to educate occupants of public and Indian housing and multifamily rental properties receiving project-based assistance. This activity falls short of what was directed by Congress. This costs next to nothing and would begin to alert the vulnerable renter population to the risk of radon. HUD action will provide a model for the owners of privately-owned assisted properties without a HUD-insured mortgage.

Federally subsidized rental properties are required to meet housing quality standards at 24 CFR 982.401 which include a requirement that each dwelling unit be “free of pollutants in the air at levels that threaten the health of the occupants.” Such support for indoor air would suggest a parallel requirement for radon testing and mitigation. Indeed, HUD enacted a requirement that tenants maintain a smoke-free environment throughout public housing properties, and, with CDC, initiated programs promoting smoke-free housing. The cumulative effect of these policies and practices would suggest a radon testing requirement and mitigation in any building where the radon level exceeds the action level.

Testing and Mitigation Information for School Districts

- Require the US Department of Education to have state education agencies, working with state radon programs, disseminate school-related consensus radon standards to local education agencies and recommend testing for radon (and mitigation if the radon level is above the EPA action level).

Congress directed EPA in PL 100-551 (15 USC 2667) to conduct a study of schools’ radon levels and provide school districts with technical guidance, data and information concerning methods of testing and remediation. The resultant National School Radon Survey estimated that 70,000 US classrooms had radon gas above the EPA action level, and that 19.3 % of all US schools had at least one classroom with a high level. Although a few states and some school districts have enacted testing requirements, there has been no concerted national effort to identify, test, and economically mitigate the high-risk classrooms. While federal funding is not likely

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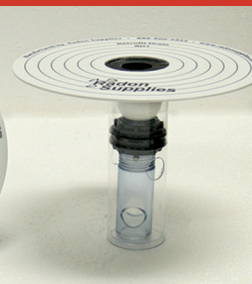
available to render every classroom's radon level below the action level, a concerted national program is needed to build capacity by conveying radon knowledge and recommendations to school districts. EPA's initial technical protocols for schools been supplanted by ANSI-AARST consensus standards for measurement protocols and mitigation relevant to schools, but this information has not been disseminated to school districts on a national basis.

Health Savings and Flex Spending Account Payments for Radon Testing and Mitigation

- Add a statutory requirement to Section 213-1 of the Internal Revenue Code, or instruct IRS to make the needed technical change, to include radon testing and mitigation in the list of allowable expenses in IRS Publication 502, Medical and Dental Expenses.

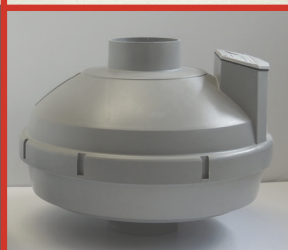
Some taxpayers set aside a portion of their income for future health needs. Section 213-1 of the Internal Revenue Code expressly allows "expenses incurred primarily for the prevention or alleviation of a physical or mental defect or disability." Current Internal Revenue Service (IRS) guidance does not allow funds from tax-favored health plans, such as Health Savings (HSA) and Flex Spending (FSA) Accounts, to be used for radon mitigation unless a doctor has already diagnosed an occupant with lung cancer. This approach prevents taxpayers from using their own funds to mitigate radon to prevent cancer. Allowing taxpayers' use of tax-favored health plan dollars for radon mitigation to prevent cancer would save literally tens of thousands of dollars and precious lives. Tax-deferred health savings account administrators should be able to communicate to plan participants that radon can be addressed with health savings and flex funds, and taxpayers should have the security of knowing that testing and mitigation expenses are allowable. ●

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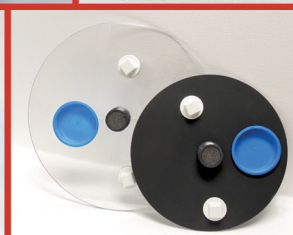


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Rachael Drazan-Malmberg Brings a Patient's Voice To The Radon Cause

By Amy Morris



The 2018 AARST International Radon Symposium was honored to host Rachael Drazan-Malmberg, a speaker making momentous advancements in radon-induced lung cancer advocacy. Rachael had the packed audience spellbound while sharing her story, at times laughing, and

at times in tears. The young mother, elite athlete, and an advocacy force to be reckoned with, Rachael has made significant changes in Minnesota for school radon testing and continues to work striving to educate, impact patient needs within the radon industry, and change the face of lung cancer all the while fighting her own battle with the disease.

Rachael generously made time to answer some follow-up questions for The Radon Reporter and had these thoughts to share.

What would you tell the professionals who weren't able to attend the symposium?

The first thing is giving the message to the people in the industry that you're not just doing this as a job, you're doing this because you care, you want to make a change, and you have an opportunity every single day to save a life. As a patient, I would like to take this opportunity to say THANK YOU to those people. Without them, I likely wouldn't be here today because I wouldn't have my house mitigated, and I wouldn't have the education and information that I need to pass onto other people. What I can pass onto these readers is that what you do is important! Your job is more than just mitigation, you're educating us. You're positively impacting others and saving lives. Every chance

that you get, please remember- it's not another dollar earned, its another life saved, another step toward eliminating radon-induced lung cancer.

The efforts we have made in Minnesota have spurred communications, stories, and investigations across the nation. We need to continue to challenge investigators to look deeper, and take my story and use it. How do we carry the momentum we've gained in Minnesota? By asking the critical questions, and do that across the nation. If we can continue to expand this movement across the country, and in every state, we show a unified front, then we can move legislation, then we will make a massive impact.

After observing the symposium discussions about strategy, are you optimistic that AARST can make a positive difference with policy change?

Yes, I think that there is good leverage right now and we've built some solid relationships. These will allow us to open more doors that will help us persuade, provide education, and move the legislation that we need. I think that we've had this momentum in the past, but now there are a lot of partnerships, a rapid expansion of efforts to share knowledge, and industry professionals meeting with patients. These lanes are now expanding with higher energy which was missing in the past. I think witnessing this at the symposium makes me believe we can really impact others in a more positive way which will continue to persuade legislators.

What are your personal next steps on radon risk reduction?

I have a couple of lanes that I look at from a patients perspective. Education: How do we educate those around us that either doesn't have exposure to people with lung cancer, don't know what it is, and don't know about environmental causes? For example, when I came back from the symposium, one of the things that came up when I was in a work meeting was where I had been? That opened up a door, and I took that opportunity to say, well, I've been diagnosed with lung cancer, and I'm pretty sure its environmental exposure, specifically radon, have you tested your house for radon? The next hour I had an email

from that person asking for contact information for someone that could do testing and mitigation. They are currently in the process of doing that! So from that one positive communication, an opportunity to educate has turned into a full conversation with someone taking action.

Opportunity: Another lane is that every chance I'm given to go speak at an event or do anything for lung cancer advocacy, it's identifying the causes of lung cancer, and calling out radon. Smoking is not the face of lung cancer anymore. Talking about environmental factors and leveraging the platform that I've been given is the next step for me.

How can radon industry professionals help you?

I think AARST can continue to present opportunities for me as a patient advocate to communicate about it. At the current time, I don't have the resources to put myself in front of people; when they ask they ask me to do something or travel, I don't have the financial resources as a patient right now that I can go out and do those things. Supporting in those ways would allow me to do more and have a better impact.

What will be your main focus going forward?

I'm really pushing for general awareness, but schools are an essential target. If you think about the early development of children most of their development is at a young age, lung capacity develops at a young age.

A critical impact is to eliminate early radon exposure during developmental stages. The other reason that I've wanted to impact schools is that we have educators, support staff, janitorial staff, and administrators that have come out with asbestos cancer, lung cancer. There's such an uptick for people who work in those environments. It doesn't make sense to me why we are not tackling that front. It's so important because our kids and staff can spend up to 10 hours a day in school. If the majority of my daughter's day is spent in an unsafe environment, then I'm not doing my job as a parent to protect my child if I'm allowing her to be exposed to an environmental chemical that's deadly!

What were some thoughts you left the symposium with?

The symposium is a great networking opportunity, and I think there is room to continue growing the educational side and continue as an industry to decide what we want to tackle. Also, interacting and hearing from people in the industry about their goals and what they're trying to accomplish was really insightful.

From a patient's viewpoint, we are exposed to different trials, different things coming out, and what universities looking at. Finding a way to join these avenues, bridging the gaps between patients and industry professionals, will only help all of us accomplish our goals and impact patient care and results. ●

You can follow Rachael on Facebook @RachaelWarriors

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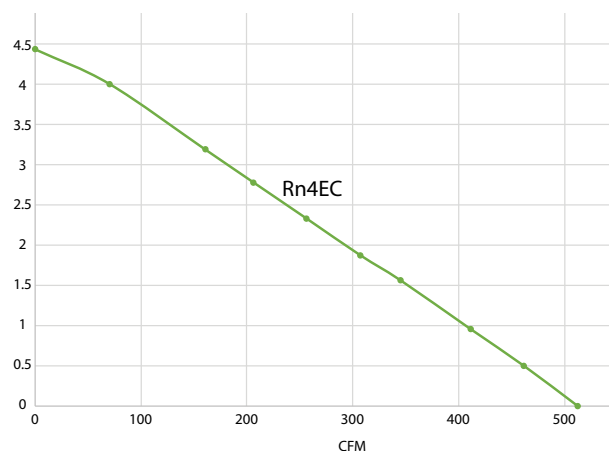
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Opt-in! CDC SECURE RADON DATASHARE

Opt-In. CDC's Secure Radon DataShare

By Dallas Jones

In 2014, a number of states joined the CDC's Environmental Public Health Tracking Network (Tracking) Radon Workgroup to coordinate the collection and aggregation of radon data. The long-term goal was to create a shared resource with state-level input that combines radon test data with other data on a national scale. In 2017 the EPA's Exchange Network awarded additional money to the Washington State Department of Health to partner with the Colorado Department of Health and Environment to create access to radon data that may be available to non-tracking funded states and tribes.

Progress has been slow because most states have no authority or structure to collect radon data to contribute. After four years, only ten states have submitted usable data to the Tracking Network.

In a 2017 conversation with Chrys Kelley of the Colorado Department of Public Health and Environment, I expressed my frustration that the EPA Radon Potential Map was over 25 years old, was based on very little actual radon test data, and appeared to underestimate the radon potential in many areas. I learned that Chrys had succeeded in getting charcoal laboratories to voluntarily submit data to her program so that Eric Brown, Colorado's Environmental Data Coordinator could update the Colorado Radon Map. Subsequently, Eric, using Colorado's Data Confidentiality Agreement, mapped 3 million usable radon test data collected from homes in multiple states that were voluntarily submitted to him in 2017 by five laboratories (AccuStar, AirChek, Alpha Energy Lab, EMSL Analytical and Radon Analytical Labs).

Knowing that Eric is an integral participant in CDC's Environmental Public Health Tracking Network, I asked Michele Monti at the CDC Environmental Health Tracking Branch and Peggy Bagnoli with the EPA Indoor Air and Radiation Program, "What if these five labs were to allow Eric to share their data with CDC, and AARST could convince other industry labs to participate in the future?" In this way, their project could collect data from the entire country instead of being limited to the few states.

"The collaboration between private labs and CDC has the potential to triple or quadruple our progress," says Monti. "All the time and energy expended in collecting radon data for ten states has not been wasted. Our collective efforts to identify necessary data variables and to establish data standards, to create a validation protocol and to create indicators and measures were necessary first steps in creating a radon content area on the Tracking Network." Michele adds, "By participating in this effort and providing data that may not be available through our grantee states and providing data for unfunded states, health departments may be able to target areas with no testing or areas that may need further testing. Our net keeps getting wider!"

Results? Yes! The five labs agreed to have Eric forward their already-submitted data to CDC, and two of them have submitted another 350,000 tests from this past year. Michele Monti is looking for more labs to join in, and even attended the

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Opt-In. CDC's Secure Radon DataShare

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International Radon Symposium in Myrtle Beach to recruit in-person.

Still, we all know professional testers are inclined to utilize continuous radon monitors; and except for a few states, there has been no effective mechanism to collect CRM test data.

This summer, I began calling CRM manufacturers with a question. Would they be willing to utilize their test report software to collect the needed test data fields from their users and store them in a database for submittal to the CDC? I knew some of the manufacturers were developing updated test-report software that was compatible with Smartphones

and tablets. If the radon data collected by the monitor was now easily merged with pre-entered property data (including whether it's pre- or post-mitigation) and delivered electronically to the client, couldn't it also be collected by the manufacturer and stored in a secure database for eventual upload to CDC? Granted the tester would have to feel confident that the data was secure and Opt-In to participate - but imagine how much test data could potentially be available.

I was elated at the responses I received. One major CRM manufacturer who liked the idea developed the capability and demonstrated it at Myrtle Beach. Its software is not only compatible with its newest CRM model, it also works with older versions aided by an inexpensive Bluetooth dongle attached to the old printer port. This manufacturer's secure, cloud-based data storage utilizes the very latest security and encryption protocols. At least two other CRM manufacturers tell me they expect to have a similar capability sometime in 2019. An independent radon report software provider has also inquired about the data points needed for participation.

Unfortunately, the 1992 EPA Radon Map will not go away until we have data to replace it. CDC with EPA support is committed to making it happen. Our partners who manufacture CRMs are investing in the technology to make it easy for you to participate.

Now it's up to you! Call your CRM manufacturer and ask about Opt-In – the ability for you to securely share radon data with the CDC. If they have the capability already, please Opt-In.* If they're working on it, let them know you're anxiously awaiting. And if they haven't started, please have them call me. I will put them in contact with Michele and Eric to answer any questions.

*Because New Jersey law prohibits labs/testers from securely sharing radon test data with other state or federal agencies, tests performed in NJ are not eligible for industry submission. ●

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Kimberly Buchmeier Brings Advocacy to a New Level

By Amy Morris



One of the most well-received events during the 2018 International Radon Symposium was the opportunity to hear Kimberly Buchmeier speak. A radon-induced lung cancer survivor turned super-advocate, Kimberly presented her impassioned story to the symposium attendees who thanked her with a standing ovation. From a small town in Nebraska, Kimberly shared how a complete omission about in-home radon testing from her real estate agent, followed by a nonchalant response from her oncologist about the cause of her lung cancer diagnosis, propelled her into the world of advocacy. Through her work, Kimberly hopes to inspire Realtors, medical professionals, and legislators to fill in these life-threatening gaps by merely making information available.

Kimberly spent some time with The Radon Reporter sharing her thoughts about the symposium and hopes about the momentum AARST can maintain in reaching the public and changing laws.

After observing the symposium discussions about strategy, are you optimistic that AARST can make a positive difference with policy change?

I really do, I think based on the positive experience in the advocacy training course, it is a good step in the right direction. Listening in on some of the sessions that included the strategy and policy, participating in the discussions there, I really think we can make a positive difference. I'm excited about the direction AARST is going in and the involvement that AARST does have on policy change.

What impressed you about the 2018 symposium?

I saw such a significant change in the enthusiasm level from last year. Maybe it was because I was a speaker this year and I was much more involved, but even so, I felt like this year had such a big hype to it. Anticipation build-up from all the social media, having a hashtag #stopradon, and just doing a lot more interacting with the attendees than last year was so exciting. The coolest thing was the Town Hall style rally! I think people really got charged up by that and kept the momentum going. I really enjoyed the symposium as a whole and was able to have so many conversations. People wanted to talk to me; they saw me in a different light than just an attendee with a booth like last year, so that made a difference.

I hadn't even gotten home from the trip, and I was getting Facebook friend requests from people I had talked to, and even some requests from people I hadn't talked to. They wanted to follow my story and keep in touch. So I added them as a friend and invited them to follow me on Facebook @ WhiteRibbonCrusader. There they can track my activities in the lung cancer world apart from my personal life.

"We shouldn't have oncologists not talking about radon, we shouldn't have medical professionals not asking those questions!"

What are your personal next steps on radon risk reduction?

Just this past week, I was at the lung force expo. We successfully had radon put in the general session for the second year in a row, so that was awesome! I will be working with Jane (Malone) to see what we can do on a state level. At the county level, I just met with the SE Nebraska District Health Department and helped them with a grant request to get financing for radon awareness and education efforts planned for January which is radon awareness month, so I'm super excited about that!



I had emailed the new director that I was going to this radon symposium. I told him I would be coming back with some great new ideas and he said the timing was perfect for this grant. We met, they took my thoughts and included them in the grant.

What role can AARST play to support your cause?

I really appreciate AARST helping get me to the symposium. I couldn't have afforded to go and share my story and help give all the radon professionals a reminder about how vital their work is. I think it was awesome to have Rachael and I come to talk and provide them with a lung cancer connection, a face. It makes it more personal having us speak and why the symposium was so different this year.

Who is the top of your list to target for radon action?

My platform has really been to get the education and awareness out to the public. That really should come from the medical professionals and Realtors. Legislators are great, and we need to continue to support them and visit capital hill, your local legislator, but really we have got to get the medical professionals on board. We shouldn't have oncologists not talking about radon, we shouldn't have medical professionals not asking those questions! We have a duty right now to really attack the medical professional world and get medical questionnaires changed and put information into doctors offices.

How did getting lung cancer change you?

I was just plugging along with life and actually felt I was living my best life. I was busy as an entrepreneur running my own businesses, a wonderful husband and 3 active kids in my home, a fantastic friend group, and a big extended family. I had even run my first half marathon the year before!

When I was diagnosed, I was so mad that it was lung cancer! The stigma of smoking was horrible to deal with. It wasn't until three years after my diagnosis that I let go of being mad and decided to turn that anger into advocacy. My personality has never been to be defeated...so I used my energy, networking skills, people skills, etc. to be the best lung cancer advocate I could be.

My husband and I have grown closer. My kids are all grown, so our house isn't as busy. My friendships have changed, but for the better. And my extended family continues to support all my advocacy efforts. I feel like I am still living my best life! ●

You can follow Kimberly on Facebook @WhiteRibbonCrusader

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"Imagine"- a Night Out in Myrtle Beach 2018

By Phil Rivas, Symposium Planning Committee, Entertainment Lead

Each year since almost anyone can remember, Tuesday night at the Symposium is the "AARST Night Out". For those unfamiliar, it is the big finale party that all attending the symposium are encouraged to attend. The theme of the night this year was "Imagine." With months of foreshadowing and clues as to what was going to take place, guests were invited to "Imagine" the possibilities long before arriving in Myrtle Beach.



The entertainment portion of the evening started at 5:30 p.m. near the pool deck with Imagine Circus putting on an incredible show that was engaging, eye-catching and visually captivating. Featured performers were jugglers, aerial artists and hand balancers plus a mentalist/close-up magician, mirror man and fire performer. As these thrilling performers finished up at 6:30, the crowd shuffled into the buffet line for dinner, buzzing about what they had just witnessed.

After dinner, the guests were treated to a one of a kind event in watching their contemporaries participate in a Radon Parody Karaoke Contest. A WHAT?!?!? Yes, indeed it was Karaoke performances of popular songs sung with radon themed lyrics. Six teams, complete with costumes and props, performed. The team names and competitors shaped up as follows:

"#Radon Boiz" featuring Chad Robinson of Building Performance Company and Ari Ghahremani of Radon Survey Systems, singing "Thank God I'm a Radon Boy." Chad performed the vocals and Ari G was great on the fiddle parts of this iconic song.

"The Radon Dollyz" featuring an ensemble cast led by Tim and Jan Fisher of Radon Supplies Inc, singing "Radon" to the Dolly Parton tune Jolene. We were awed at the cleverness of the lyric choices and had great fun singing along with the fully costumed and blonde Dolly-wigged wearing Radon Supplies crew.



"4-Non Radon" was led by Jo Weaver of Fantech and a cast of industry colleagues who helped her sing a great rendition "I want the radon gone" to the tune "What's Up" by 4 Non Blondes.



"Team Radonova" consisted of Bill Rounds, Daniel Roak and Tryggve Ronnquist of Radonova. They came fully costumed as Radon Busters to answer the age-old question - who are you gonna call if you have a radon problem? That's right "AARST Members"!! Sung to Ray Parker Jr's Ghostbuster theme song.

Bearded Overlord and the Emanations" was led by the prolific and effervescent Mr. Bruce Snead and friends who sang two great tracks. The first was a take on a Joe Diffie tune called "Prop me up beside the Chamber" (Prop me up beside the Jukebox) and the second track based on Muddy Waters Mannish Boy, called "The Radon in Granite Blues."

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Changes in NRPP Device and Proficiency Elements in 2019 *by Dallas Jones*

Since taking the reins as Executive Director in 2018, I noticed that the NRPP has received countless complaints questioning the necessity of performing a Device Performance Test with a continuous monitor when renewing one's measurement certification. Our staff listened intently as NRPP-certified individuals explained that CRMs are more technologically advanced and far more user-friendly than when proficiency tests were required for EPA Listing back in the 90s.

I'm proud to announce your concerns did not fall on deaf ears. In April, a special Task Force was assigned to study the matter and determine if there was a case for recommending an alternative procedure(s) for evaluating one's ability to deploy a CRM properly. The task force submitted recommendations to the NRPP Policy Advisory Board (PAB) for consideration. After months of deliberation, the PAB approved the following changes to be implemented no later than July 1st, 2019.

DEVICE SPECIFIC TRAINING (New!)

Measurement device manufacturers (or laboratories who manufacture devices) will be required to develop device-specific training for both new and existing users of their products. The manufacturer or lab can opt to subcontract the development of the training. The training course curriculum, which must include required course elements, shall be submitted to the NRPP for CE approval.

The manufacturer/lab would NOT certify anyone to use its device but would verify that a person completing the device training has received enough information exposure to allow them to be proficient. Each submission must include 20 device-specific multiple-choice quiz questions.

A measurement professional will need to successfully complete the training specific to each type of device he/she will utilize. This training requirement applies to individuals using any measurement device, including passive devices provided by NRPP-certified labs. In the event training for a specific NRPP-approved device is not available, NRPP may issue an exception to the requirement, accepting a repeat DPT instead.

Course Format

Device-specific training needs to be a minimum of 2 hours, and may be delivered in a classroom, in a live webinar, or as an online-on-demand course. In addition to passing a device-specific quiz, the candidate must demonstrate the ability to generate a report, either by the submission of a test conducted at the candidate's residence or by displaying, either in person or

remotely on camera, the ability to start and stop the instrument and generate a report.

The Minimum Course Content Criteria include:

- A QA plan specific to the device
- What environmental factors can influence the device
- What can potentially cause data interference (e.g., EMF, line spikes, battery loss, etc.)
- How to tell when the device has malfunctioned
- How to initiate a test, stop the test, and generate a report
- What data input is necessary for cloud-based reporting
- How to detect tampering and interpret unique results
- How to interpret other data collected (e.g., temp, humidity, barometric pressure, etc.)
- How to conduct calibration
- How to compensate for dynamic/secular equilibrium and initial 12-hour period if the building isn't closed before arrival
- How to properly store and handle the device

NRPP-CERTIFIED INDIVIDUALS: CRM DPT REQUIREMENTS

The initial Measurement Certification application for a candidate who intends to utilize a continuous radon monitor will still require the submittal of a successful initial Device Performance Test, along with the calibration certificate, for each device. Also, candidates must submit a certificate of completion of an NRPP-Approved Device-Specific Training for each type of CRM they intend to utilize, and pass a Device-Specific Quiz administered through NRPP's online renewal system.

Each NRPP administered Device-Specific Quiz will be approximately 20 questions. Completing the Quiz will not require a proctor. Seventy-five percent of the questions will be specific to the device; the remaining will cover general but relevant device placement protocols. Repeating the quiz will be allowed until a passing score of 75% is achieved.

A renewal application for an individual utilizing a CRM will not require another Device Performance Test (DPT) provided that the individual has previously completed NRPP-Approved Device Specific Training (for the type of CRM being utilized) and passed a Device-Specific Quiz administered through NRPP's online renewal system.

Although NRPP will no longer require periodic DPTs, NRPP will

continue to recommend the inclusion of periodic DPTs in QA/QC plans.

Individuals currently NRPP-certified with a CRM who haven't completed appropriate NRPP-Approved Device-Specific Training will be required to do so before the next certification renewal. Upon completing an NRPP-Approved Device-Specific Training course successfully, the individual will NOT be required to repeat the course upon subsequent certification renewals. Again, in the event training for a specific NRPP-approved device is not available, NRPP may issue an exception to the training requirement, accepting a repeat DPT instead.

CRM MANUFACTURERS: DPT REQUIREMENTS

To maintain NRPP Device Approval, all CRM manufacturers will be required to submit at least one unit to an NRPP-Approved Secondary Radon Chamber for a single-blind performance test once every six months (and after any changes to components and algorithms have occurred.) The monitor(s) submitted are required to be units manufactured since the previous DPT (i.e., advancing serial numbers). In the case of DPT failure, the CRM manufacturer must resubmit and pass DPT within 30 days or at the next available window. If there is a second DPT failure, suspension of the NRPP listing for the device will occur. The delisting may be resolved by a passing DPT.

If a manufacturer chooses not to support a CRM model (meaning they no longer submit semiannual DPTs, calibrate the device(s), or develop device-specific training), the NRPP listing of the device can be maintained by a user of the device by passing initial and renewal DPTs.

If a manufacturer no longer manufactures an NRPP-approved device, but the manufacturer still supports it, the manufacturer would submit the latest version available for the semiannual DPTs.

SECONDARY RADON CHAMBERS: DPT REQUIREMENTS

Chambers approved by NRPP to perform DPTs will be required to notify both the applicant and the device manufacturer of a DPT failure. To protect client confidentiality, the chamber will exclude the applicant name(s) from the notice to the manufacturer.

These chambers are also required to compile and provide to NRPP on a semiannual basis, a report containing: the date of the DPT, device type, device code, applicant ID, Pass or Fail, and the cause of failure, if known.

NRPP will consider extending the DPT revision to other analytical devices (such as EICs) within 18 months after promulgation of this policy, and the basis will include additional data from Secondary Chambers assessing the impact of device-specific training on user DPT performance as well as manufacturer DPTs.

Kudos!

I'd like to publicly commend the DPT Task Force and the NRPP Policy Advisory Board for their willingness to consider valid input from our constituents, and at the same time, sustain our never-ending commitment to quality measurements. Thank you for revisions that reflect the needs of the certified individual while not sacrificing the integrity and value of the credential. ●



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Dennis L. Duffield, P.E.	Scott B. Frey	Bart Palmer	Steve Nance
Chris Jenkins	State of Minnesota	Larry Adams	Michael Martin
LeAnna M. Norquest	Cindy Segobiano	Alan K. Ward	David Bean
Tyson Brauneis	Nick Wahnefried	John Petculescu	Kirk A. Stanley
Marilyn Patrick	Thomas Olphie	Steven Gorman	Shaun Keehma
Steven Head	Rick De Shong	Beth Riddick	Sungsoo Kim
Michael Jones	Cole Chevalier	Robert Anderson	Valerie Reynolds
Patrisha Nielsen	Kris Weigal	Scott L. Davis	Kate Johnson
Glenden Allen Robinson	Carl Ramsey	Christina Johnson	Sandra Day
William Romano	Joseph D. Tropeano	Warren Christopher Brink	Mallory Gannon
Michael Wayne Sharpe	Waqas Anwar	Robert Popoli	Tony Domingues
Anthony Cruz	Jill Lonneman	Thomas Scott Ranney	Robert Peters
Andrew Delzeith	Joseph Warth	Al Gallucci	Chris Baker
Arthur O. Shaw	Amy Peacock	Jill Hochmuth	Richard F. Pezzino, RMS
Lance Dorfi	Anne R. Hodges	Alishia Menjivar	

AARST Chapters

AARST currently has ten chapters. Chapters meet at least once annually, often offering C.E. opportunities. Chapters also work in conjunction with EPA regional offices to support the EPA Region Stakeholder meetings.

AARST Chapters work on behalf of members for regional radon risk reduction awareness and legislative change. They do this in a number of ways, including but not limited to lobbying, regional PSAs, and awareness programs. Some chapters publish a member directory online for local communities to find a radon professional. Join your local chapter. See the websites below; chapters presidents' emails can be found on page 2.

Kentucky Association of Radon Professionals

<http://www.kentuckyradon.org/>

Heartland Chapter of AARST (IA, KS, MO, NE)

<http://heartlandchapteraarst.com/>

Midwest AARST (IL, IN, MI)

<http://www.mwaarst.org/>

New England AARST (MA, CT, ME, NH, VT, RI)

<http://neaarst.org/>

North Star (MN, WI and surrounds)

<https://www.northstaraarst.org/>

NY Chapter of AARST

<https://aaorsat1.wildapricot.org/>

Ohio Association of Radon Professionals (OARP)

<https://theoarp.com/>

Pennsylvania Chapter of AARST

<https://aaorsat6.wildapricot.org/>

Rocky Mountain AARST (CO, WY, MT, ID, UT, AZ, NM)

<http://rockymtnaarst.org/wordpress/>

SE AARST (GA, FL, TN, AL, NC, SC)

<https://seaarst.org/>



Meet the Godfather of Radon Mitigation:

Rutgers Instructor Bill Brodhead Fights an Invisible Killer, All Around the World (Guam, Japan etc.) One Radon Mitigation System at a Time

By Casey Sky Noon; Rutgers Press Release, used with permission

According to radon expert Bill Brodhead, there are two rules of radon. A sarcastic quip, the first rule is, "If you haven't tested, you don't have any radon." The second rule is an honest, but alarming statement. "If you do test for radon," Brodhead says, "You will find it everywhere, including in Guam, Okinawa, and Hawaii." Closer to home, Brodhead says that Pennsylvania and New Jersey "have some of the highest radon concentrations, not only in the country, but in the world."



Radon is a radioactive gas that is invisible and scentless. Produced by decaying uranium, it is present in nearly all soils. Although low levels of radon are found in the air we breathe every day, long-term exposure to

high levels of radon can cause lung cancer. In fact, radon is the leading cause of lung cancer for non-smokers. According to the US Environmental Protection Agency (EPA), radon is responsible for 21,000 lung cancer deaths each year.

The good news is that professionals can install remediation systems in homes and buildings to reduce unsafe levels of radon. The Eastern Regional Radon Training Center at Rutgers University works closely with the National Radon Proficiency Program (NRPP) and the National Radon Safety Board (NRSB) to certify professionals in both measurement and mitigation. In fact, the Scarlet Knights have trained almost one thousand students in radon mitigation since the early 2000s.

The ERRTC training series to prepare professionals for the national radon measurement and mitigation certification exams is five full days. The program includes classroom learning, hands-on training, and live demonstrations of air pressure/flow gauges, smoke tests, installing pipes, various fan models, meters, and more. Beyond the hands-on learning, the best part

of the ERRTC training series is learning from "The Godfather of Radon Mitigation," Mr. Bill Brodhead.

In the early 1980s, Brodhead was building custom solar and super insulated homes. During a solar power association event, an indoor air quality specialist from Princeton University mentioned the threat of radon. That was the first Brodhead had ever heard of the cancer-causing gas. At the time, radon was not a well-known public health risk. He tested one of his client's homes and sure enough, there were dangerously high levels of radon.

Fast-forward 30+ years, Bill Brodhead is now a leading proponent of radon awareness and an expert in radon mitigation. Not only did he install the very first indoor mitigation system in the state of Pennsylvania, he has since built over 10,000 systems!

In addition to constructing remediation fans and vents, Brodhead conducted research studies to test alternate mitigation methods and find the most effective approach. For example, working with the Department of Energy (DOE), Brodhead helped with a 100-house study in New Jersey. They evaluated each system and analyzed the data to determine which techniques minimized radon concentrations the most. "I was involved in a number of EPA-funded research projects as a field person," he explained.

Even the US Navy calls upon Brodhead when levels of radon have become dangerous in their military facilities around the world. When the Navy first contacted Brodhead about installing eight radon mitigation systems on a military base, Brodhead said, "Great, where at?" Followed by, "Guam? Where's that?"

Without hesitation, The Godfather of Radon Mitigation rounded up a crew, collected some construction materials, and traveled to the tiny tropical island in the Western Pacific. Two thousand miles away in the middle of an island, Brodhead said, "The radon mitigation systems aren't any different really, but the logistics are much more difficult."

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Meet the Godfather of Radon Mitigation:

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President's Achievement Award presented to William P. Brodhead for excellence in performing and training radon mitigation

To start, getting to Guam takes hours of travel. "From the time you leave your house to the time you arrive, it's about 27 hours," Brodhead said. "It is a long transit time. Three flights!"

Getting radon mitigation system materials to Guam is another arduous process. First, the team needs a giant cargo container. Then, they have to buy and fill it with equipment, including construction tools, diamond bits, core drills, ladders, fans, and PVC piping. Someone must inspect and sign off on the contents of the cargo container before a crane will lift it onto a huge cargo boat. Finally, the ship sets sail and crosses the ocean to the tiny island.

Getting cleared by the US military to get on and off of their bases is yet another struggle.

Then, there is the work itself. A typical radon mitigation system includes a suction fan and PVC piping. Engineering radon mitigation systems in Guam is harder (pun intended) than in the US because the buildings are massive blocks of concrete. "They are structurally built to withstand earthquakes and typhoons," Brodhead explained. "The buildings are predominantly all concrete construction, with weatherproof doors and windows, which makes them extremely airtight." With cement floors, walls and ceilings, running pipes up and out of the homes involves a lot more wet core, diamond bit drilling.

Since that first trip, Brodhead has returned to the Pacific annually to continue this life-saving work. He brings a team of four to eight people and stays on the tiny island for three to four weeks each time. "We get really organized and are able to install two systems a day," Brodhead said. At that rate, over the past 20 years, Brodhead has helped to install approximately 800 systems in Guam!

His international mission to protect people from radon hasn't stopped there. "We also installed probably somewhere close to another 800 mitigation systems in Okinawa," Brodhead said. The Japanese island is only 70 miles long and 7 miles wide, yet it houses 32 US military bases and 48 training sites. Although he mentioned in nonchalantly, travelling to Japan and building hundreds of mitigation systems is no small feat.

The number of sky miles on Brodhead's frequent flyer account keep rising as indoor radon levels around the world are falling to safer levels, thanks to his tireless efforts. Despite the demanding schedule, he remains passionate about the cause and recognizes that his efforts are saving lives. He also finds the time to explore another one of his passions while he's on the job in remote locations. "The plus side is scuba diving in some awesome places," he said with a wide and warm smile.

According to the American Lung Association, more than half of people with lung cancer die within one year of their diagnosis. Despite that fact, the leading cause of the deadly disease is not a household word. Radon is still a risk that far too few have ever heard about. Although real estate agents must tell their clients that the building they are purchasing has or has not had a radon test, no US state has any regulations requiring radon testing.

In this less than encouraging climate, Brodhead continues to be a proactive advocate. The Godfather of Radon Mitigation is still raising awareness, researching the most effective mitigation techniques, and remediating thousands of buildings. To top it off, Bill Brodhead returns to the Eastern Regional Radon Training Center at Rutgers three times a year to teach others how to measure and mitigate professionally. With these training efforts, his life-saving reach is exponentially more than one can calculate. ●

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The Latest Chapter in Minnesota Radon Licensing

By William J. Angell

This paper summarizes one of the last steps in enactment of Minnesota's licensing of radon professionals and businesses. The significance of this paper is that it provides insights into the process of implementing a state-enacted radon licensing requirement.

Background

In May 2015, the Minnesota Radon Licensing Act was signed into law (Minn. Stat. § 144.4961). Although not required, the lead state agency, the Minnesota Department of Health, formed an advisory committee to comment on rules related to the law. Following criticism, the Department amended proposed rules in 2016 and again, in 2017. In May 2018, the Department released its final proposed rules.

A July 2018 hearing under the State's Administrative Procedures Act was held before an Administrative Law Judge. The hearing focused on the need and reasonableness of the proposed rules. Forty-one individuals submitted comments for the hearing. About 30 people attended the hearing. Thirteen members of the public made statements or asked questions.

As allowed by the State's Administrative Act, the Minnesota Department of Health responded to several pre-hearing e-comments in a nine-page letter. The letter also commented on a related lawsuit filed on behalf of Standard Water Control Systems, Inc., among others, seeking to defer the rules. The Department noted the State's Attorney General filed a motion to dismiss the lawsuit.

In September 2018, the Judge released a 39-page report reflecting consideration of comments concerning the proposed rules and her findings and recommendations.

Need and Reasonableness of Proposed Radon Licensing Rules: Questions, Claims, and Findings

The report of the Judge focused on the Minnesota Department of Health's Statement of Need and Reasonableness (SONAR). Minnesota state statute often requires SONARs. The key SONAR consideration in this case was whether the Department adequately addressed eight variables:

1. Description of persons affected by proposed rules
2. Estimate of the State's administrative costs of the proposed rules
3. Determination if there are less costly or intrusive options
4. Description of alternative methods and why they were rejected
5. Estimate of the costs to persons impacted by the proposed rules
6. Estimate of the costs of not implementing
7. Comparison of the proposed rules with related federal and state rules
8. Assessment of the cumulative effect of all related rules

Commenters challenged several parts of the SONAR including those listed below:

Allow Licensed Building Contractors to Install Radon Mitigation Systems. Standard Water Control Systems, Inc. and an allied association claimed the Department of Health failed to adequately describe an alternative where licensed building contractors, without radon licenses, could install radon mitigation systems. The Department responded by noting the radon licensing statute did not specify the State's building contractor licensing as an alternative to proposed radon licensing requirements. The Judge concluded that the Department's perspective was reasonable.

Reasonableness of Department's Estimate of Cost Impact of Rules. An owner of a home inspection company questioned the reasonableness of the Department's estimate of the cost impact of the rules. The Judge acknowledged there would be a cost impact but concluded the commenter failed to demonstrate compliance would cost the amount he claimed. Further, the Judge found the Department's calculations were careful and amply supported. Finally, the Judge found the Department's impact cost analysis to be reasonable and well considered.

Another assertion by Standard Water and its association claimed that the Department's estimated cost impact on radon mitigation contractors was flawed. The Department rebutted by pointing



out that its estimate of cost impact was precisely detailed, drawn from cited sources and the Department's comprehensive knowledge of the mitigation industry. The Judge concluded that the Department's estimates reflected a reasonable and well-considered basis for cost while Standard's assumptions were less credible.

Lapsed Licensing Reinstatement Procedures. In response to complaints about lapse licensing reinstatement procedures, the Department of Health proposed rule changes. While the Judge found the proposed changes were needed and reasonable, they contradicted parts of the licensing statute and thus, were disapproved. The Judge made recommendations to the Department to cure the defects. In addition, the Judge made several non-mandatory clarifying recommendations.

Mitigation Audits on Only Compliant-Basis. One radon mitigator asserted it would be more efficient and less costly for the Department to conduct mitigation audits based solely on complaints rather than through regular licensee audits. The Department countered that the public does not have the knowledge to determine if radon measurement and mitigation professionals have done their jobs properly. The Judge found it reasonable for the Department to use ongoing enforcement and audits rather than wait for complaints.

Only Licensed Individuals May Place and Retrieve Radon Measurement Devices. A number of commenters challenged the requirement that only licensed measurement individuals should be allowed to place and retrieve radon-testing devices. Some commenters argued that home inspectors were able to deploy testing device simply by pressing two buttons. Another individual claimed that American Association of Radon Scientists and Technologists (AARST) standards were unclear on who needed to deploy and retrieve radon measurement equipment. The Department of Health countered that AARST and the two proficiency programs (National Radon Proficiency Program [NRPP] and National Radon Safety Board

[NRSB]) require certified individuals. It also expressed concern that radon testing by untrained home inspectors, real estate agents, or others risk produce unreliable measurements and thus, fail to protect public health. The Administrative Law Judge found the Department's proposed rule requiring a license to place and retrieve radon-testing devices to be needed and reasonable.

National Certification is Sufficient. Several individuals claimed it would be sufficient to simply require radon professionals to be NRPP certified versus licensed. The Department of Health replied that certification alone would not produce reporting required by the Radon Licensing Act. The Administrative Law Judge concluded that licensing, rather than simply certification, was required by statute.

Alternative Needed to Required ANSI/AARST Standards. One commenter objected to incorporating ANSI/AARST standards, stating they were cumbersome and unfair. The Department countered the standards were generally accepted by industry and were the result of a recognized consensus process. The Administrative Law Judge agreed that the Department had demonstrated that the ANSI/AARST standards were needed and reasonable as well as required by statute.

Recommendation

The Administrative Law Judge recommended adoption of the proposed amended rules, except for modification of two sets of defects: contradictions created by the Department of Health's modification of lapsed measurement and mitigation licenses; and lack of clarity on the Department's intent to require solo licensed radon mitigation to purchase and post mitigation system tags. Once these defects were corrected, the rules could become in effect.

When the Minnesota licensing law is implemented, the state will be the 17th state with radon licensing. ●

¹ Professor and Director, Midwest Universities Radon Consortium, University of Minnesota. Angell testified at the administrative hearing described in this report.

² <http://www.health.state.mn.us/divs/eh/indoorair/radon/rulemaking/mdhcommentshearing.pdf>

³ https://mn.gov/oah/assets/9000-35236-health-radon-licensing-rules-report_tcm19-351575.pdf

⁴ <https://www.leg.state.mn.us/lrl/sonar/sonar>

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Finally, Dr. Phil Jenkins regaled us with his velvety pipes and smooth stage presence by singing two songs. The first was based on the classic tune "Help me make it through the night" transformed to "The Sellers Lament." And the second track was a familiar refrain and take on the Carole King classic, "You've got a friend" - in Dr. Phil's version, "I'll be your friend."



The teams all put in tireless effort and work ahead of time to write custom lyrics and entertain their colleagues. The audience participation was high throughout the event, culminating in Dr. Phil's second number with the entire audience singing along. The throng of voices joining in to support a beloved colleague echoed off the hotel walls behind the venue and permeated the space with love, support and a shared vision in defeating radon together. While Dr. Phil was the hands-down favorite in the voting, there were no losers, on stage or in the audience that night.

After Karaoke, the crowd retired inside to the pavilion for the Speakeasy lounge portion where a Rag-Tag collection of radon industry professionals comprised a band called The Free Radicals. The band consisted of the following working Radon professionals:

Matt Hendrick, Spruce Environmental, on Bass Guitar

Ari Ghahremani, Radon Survey Systems, on Fiddle

Doug Kladder, Center for Environmental Research and Technology, on Harmonica

Gary Hodgden, Midwest Radon, on Keyboard and Drums

Wesley Hodgden, Midwest Radon, on Drums and Guitar

Bob Anderson, Radon Protection Services of Gettysburg, on Lead Guitar

Phil Rivas, Fantech, on Vocals and Guitar

This was an interesting proposition for these radon colleagues. No rehearsal ahead of time. No local music professionals were hired to lean on. Just six radon colleagues who all have a passion for the cause and who also happen to play music. After only a couple of quick huddles in a suite to select some songs that they thought they could pull off, they engaged in a musical "trust fall" with each other on stage that just worked out. The audience members that stuck around after the karaoke event were pleasantly surprised and absolutely danced their tails off.

The Myrtle Beach 2018 AARST Night Out was meant to be an all-inclusive event that drew upon the spirit of cooperation and inclusion for an industry with the very simplest and purest of goals: the saving of lives through the mitigation of radon gas in our homes, school and offices. ●



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NRAM (National Radon Action Month) Returns January 2019!

Each year AARST supports this public-private partnership by encouraging radon professionals to step up our communications of the radon message during NRAM. This year, we offer the following ideas and tools for our members:

- Pursue proclamations by public officials. Proclamation instruction kits are available for download in November and December RN Biz.
- Connect with an advocate to help you communicate the message. Both Cancer Survivors Against Radon and Citizens for Radioactive Radon Reduction have relationships with advocates.
- Use social media and #hashtags - #NRAM, #StopRadon, #RadonAwareness, to spread the word.
- Vote in the EPA Poster Contest or create a contest of your own.
- Host a rally. A public rally can be a great way to increase visibility, generate media coverage, and raise awareness about a policy issue. Holding an event on the steps of your state capitol building is one kind of rally. Download your rally how-to factsheet from December and January's RN Biz.

- Invite a public official to witness a radon test or be a special guest at a chapter meeting.
- Share your NRAM stories on RadonLeaders.org.

Of course, all of the good things we might do during NRAM are worth doing year-round, but NRAM helps provide a national and coordinated emphasis on the radon message. ●

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