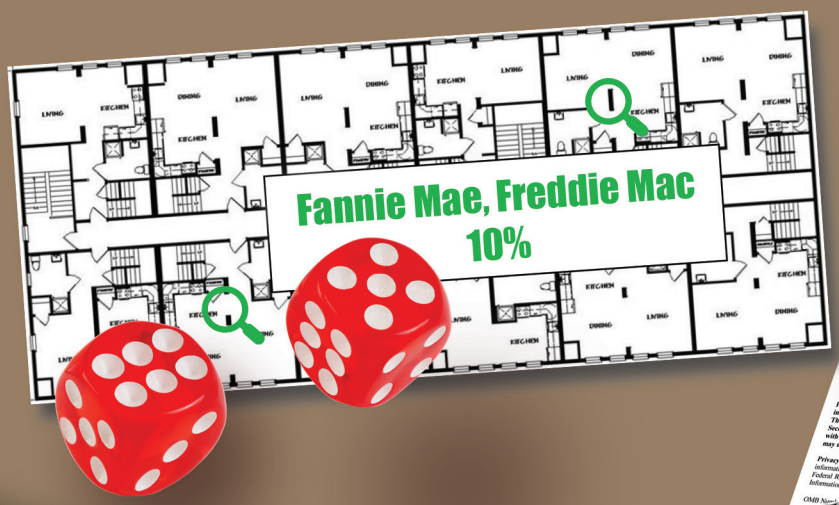
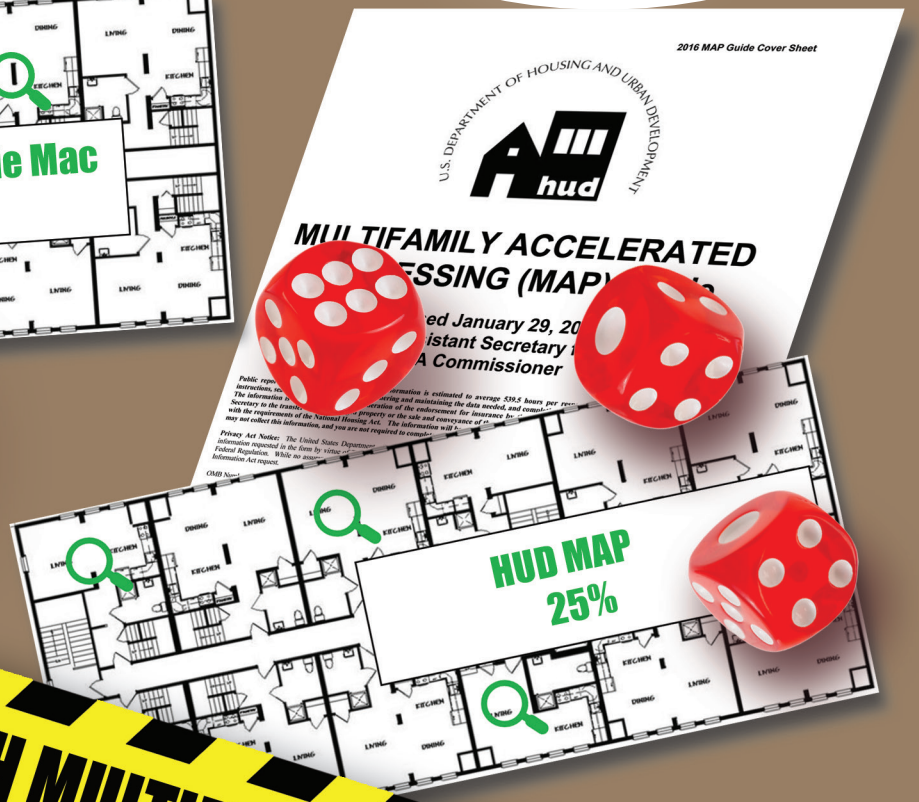
# THE Radon Reporter™

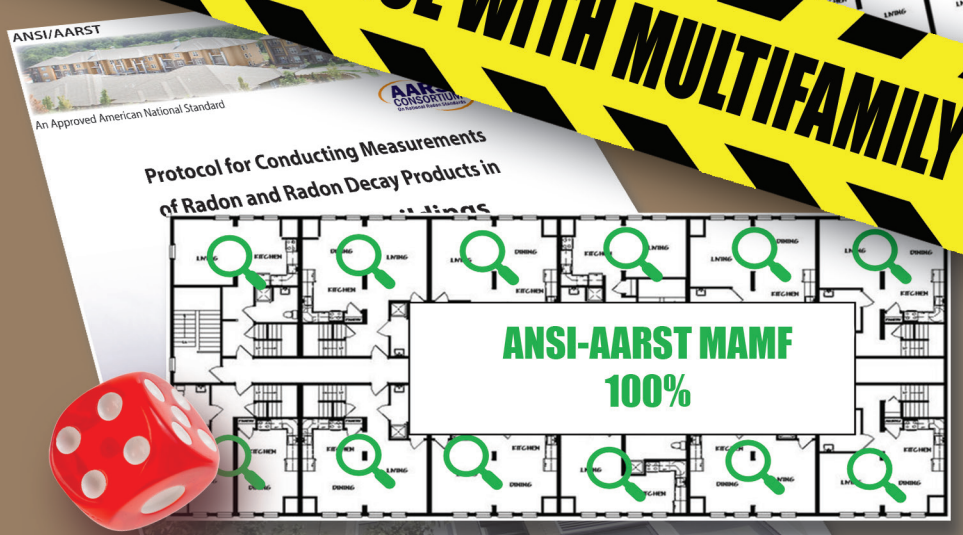
Winter 2019 | PRACTICAL INFORMATION FOR YOUR SUCCESS

AARST™
RADON PROFESSIONALS
SAVING LIVES




ROLLING THE DICE WITH MULTIFAMILY TESTING PROTOCOLS





## Recruiting Members
## Rooftop Ladder Safety
## Marketing to Homeowners

# Table of Contents





## Ad Index



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.

# What to Watch for in 2019

*By Dallas Jones*

## The Pursuit of ANSI-ISO 17024 Accreditation for the NRPP

Thanks to all who participated in the NRPP validation survey designed to analyze what tasks within each job role are most important. The content for the surveys was created from a panel of Subject Matter Experts at our Job Task Analysis workshop in August. Your input helped to weigh the respective importance of each task to align future certification requirements with your real-world experience and inform new certification exam blueprints for which questions will be developed in the spring.

It is anticipated that NRPP's initial certifications for measurement and mitigation will offer two levels of certification:

- Measurement Field Technician (onsite activities only) and Measurement Professional (quality management)
- Mitigation Installer (onsite activities only) and Mitigation Specialist (system designer and quality management)

These activities demonstrate our continued pursuit of recognition for the NRPP as an ANSI-ISO 17024 Accredited Personnel Certification Body. This accreditation will equip NRPP with the means to assure homeowners, industry partners, government partners, and other consumers that NRPP's processes for granting and maintaining certifications are credible because they conform with internationally respected expectations for the highest degree of impartiality and integrity.

**Certification by an ANSI-ISO accredited NRPP opens the door for large project contracts, delivers an enhanced layer of legal defensibility against invalid claims (which can result in reduced liability insurance) and elevates those certified above competitors credentialed by unaccredited sources. The ANSI accreditation mark on an NRPP certificate will convey distinction in the marketplace to which the public and consumers will respond, signaling to employers and customers that the credential holder has undergone a valid assessment to verify that she/he has the necessary competencies to practice.**

*"Our rejuvenated Membership Committee is working to identify new ways AARST can be of benefit to you and your business."*

The steps required for AARST to finally achieve ANSI-ISO Accreditation for NRPP will still take some time, but we are indeed moving further toward the goal. Please note that ANSI-ISO accredited certifications need not be more expensive or difficult to obtain. In fact, the ANSI process will make the exams more relevant and the program more clearly defined and better reflective of reality.

## Building AARST Membership Advantage

Our rejuvenated Membership Committee, chaired by Phil Rivas, is working to identify new ways AARST can be of benefit to you and your business. Stating a clear objective, creating measurable goals, and working closely with our members will ensure a strong base from which AARST can continue to thrive.

One of the many benefits that being an AARST member allows is participating in low-cost or free continuing education opportunities. We will continue to explore different ways to enhance your membership package during 2019. Stay tuned to RnBiz to see what's coming.

## Compliance Actions Taken at NRPP

NRPP is serious about compliance to required standards of practice and the NRPP Code of Ethics. Several certified individuals have had lost their certifications these last few years as result of consumer complaints.

Because of antitrust laws, the NRPP cannot process complaints from business associations or competitors and will not process complaints relating to pricing or market activities. It must be the consumer or local authority who signs the form.

While you, as a radon professional, cannot file a complaint you can certainly assist a homeowner in filling out an NRPP complaint form and help collect needed information such as photos, contracts and descriptions of standards violations. Meanwhile, remember: The original installer must be given an opportunity to remedy the situation. If you fix the installation before that opportunity is given, the NRPP may not have any recourse available.

# Growth Opportunity with Concerned Homeowners

*By Curt Drew, Founder and President of National Radon Defense*

Are you marketing your radon services to concerned homeowners – the ones who are already in their home and aren't planning on moving? There is a huge opportunity for the radon industry in this market! I want to share some thoughts about how we can capitalize on this opportunity.

First, let me clear the air a little. Real estate sellers are where the volume is, right? Some say that high radon readings on a home inspection account for 95% of radon mitigations. That might be true. So, if only 5% of the volume is concerned homeowners, then why bother going after that market?

Three important reasons to consider are:

1) Profit margin opportunities are better.

2) All the competition is going after 95%.

3) There is a lot of room to grow that 5% to a larger pie.

I have found that most radon companies I talk to, and I speak to often, have the same pricing and bidding process for real estate seller clients as for concerned homeowners, yet concerned homeowners are very different customers. There needs to be a unique approach for each type, real estate seller and stay-put homeowner: treat them differently.

The concerned homeowner is buying something completely different from the real estate seller. The real estate seller is buying "contingency removal." The concerned homeowner is buying "peace of mind." If you approach the concerned homeowner with a different method, you will differentiate yourself from the competition. Within our network, our average margin on concerned homeowner clients is three times higher than real estate transaction jobs.

The approach for concerned homeowners is a different process, and it starts with the mindset of getting to the customer's "why." Simon Sinek, the best-selling author of "Start with Why," has made a fortune from teaching this simple concept. In a nutshell, if you can understand the customer's "why," the "what" and "how" will follow. Understanding "why" the customer is doing this project creates clarity about your purpose and builds trust.

My company has spent years developing a process to teach our dealers to get to the "why" with our clients. News flash: it's based on asking the right questions and listening. You know the old adage - we have two ears and one mouth, not one ear and two mouths.

When we get to the "why" for our clients, the "what" and the "how" needs to address their needs. In sales appointments with concerned homeowners, we hear "health and safety of family" as the "why" a lot. The "what" and the "how" should be aligned with solving this "why." We provide a variety of solutions from which the customer can select. We are not selling; we are showing options for them to select. It is very consultative and comfortable when you know their "why." If you have a nice presentation and quality products that work, you will be more successful.

You probably are thinking that you would love to increase your margins and sell more solutions, but how do you get in front of more concerned homeowners? Well, that requires an investment in marketing. These customers are not talking to real estate agents and asking for referrals. They are harder to find, and most of them have never tested for radon.

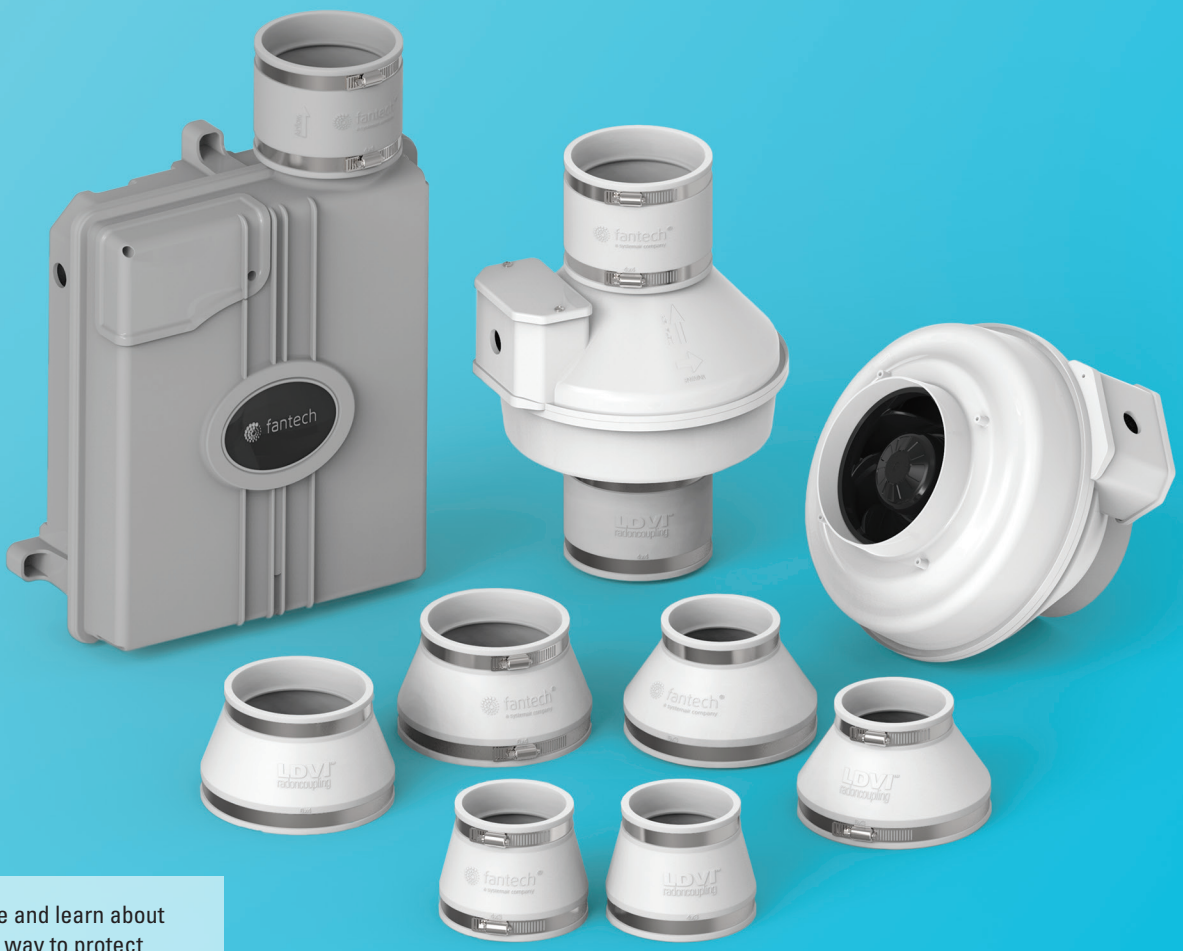
I recommend creating a multi-faceted marketing plan that is prioritized by the most significant bang for your buck strategies first. Having worked in the industry now for over 11 years, and worked with companies across the US and Canada, my company has tried a lot of marketing strategies. Some have worked, and some of them failed big time. My advice, when setting up your marketing plan is to make sure you test and measure everything. Know your numbers. Make sure you are measuring the number of leads you are getting from each marketing activity.

Additionally, track your expenses for each effort so that you can analyze your cost per lead, by each lead source. Your marketing plan, which could include internet, print, direct mail, networking, TV, radio, and others, need to be analyzed and fine-tuned on a regular, ongoing basis.

I wish you the best of luck expanding your business to capitalize on the vast opportunity that lies with concerned homeowners. Please reach out to me if you have any marketing stories to share.

fantech®
a systemair company

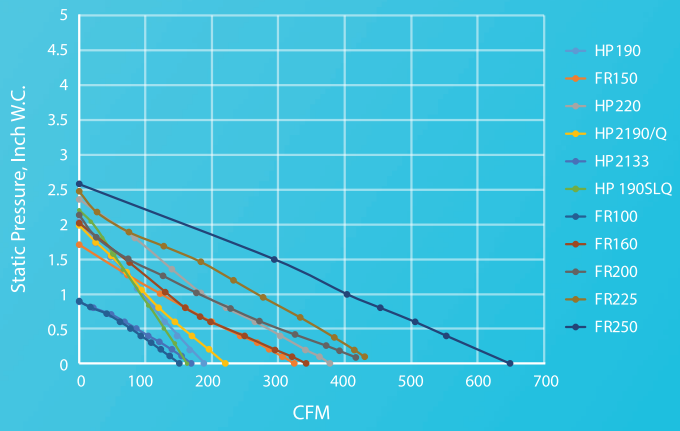
# Our line. Simplified.



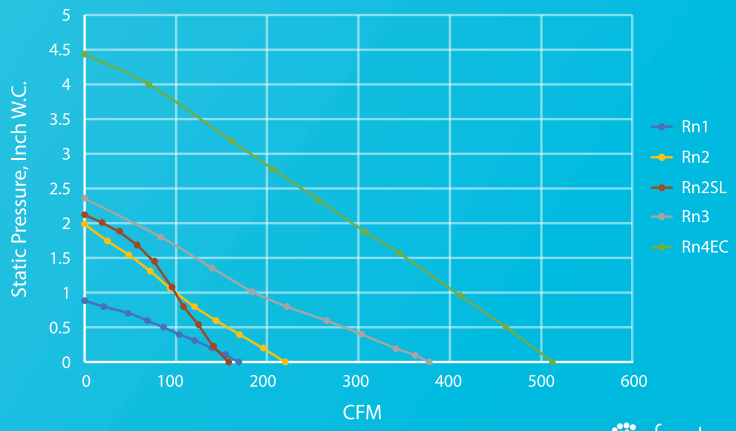

Scan me and learn about an easy way to protect your health and your family

## Leading the way in radon fan technology

### Old Radon Fan Curves




### New RN Fan Curves




www.fantech.net • 800.747.1762

fantech®

# PLEASE Use the Current Logos

*By Dallas Jones, Executive Director, AARST-NRPP*

HELLO! While looking through websites, test reports, and mitigation proposals, I keep seeing the old logos. Many professionals in good standing haven't updated their sites and client deliverables. I wanted to make sure that you know new logos are available and old ones need to be updated. Some are very old- the NRPP hasn't been run by NEHA since 2005 – over THIRTEEN years ago.

There are occasionally practitioners who fraudulently use these old logos when in fact, they haven't been an AARST Member or NRPP certified in years. Only authorized users can use or display an AARST or NRPP logo. Please be reassured that when ever misuse is brought to our attention, the offender indeed receives a Cease and Desist letter.

How you use the NRPP, and AARST-Member logos reflects on our association, the certification program, and your company. If you're still handing out test reports displaying an outdated logo, you're not showing pride in yourself or your business. Please display logos correctly to demonstrate your commitment to quality service and excellence. We encourage you to involve your entire organization in helping AARST raise the profile and enhance the image of the association.



# Ladder and Roof Safety

*By David Daniels, AARST President*

If you are a strictly a radon tester, you probably don't have to worry about climbing onto a client's roof. If you are a radon mitigator, then you probably climb onto roofs all the time. For me, the first priority has always been safety while working. Once I began hiring employees, that concern transferred to them. I care about all my employees, and would never want any of them to get hurt, on or off the job. Additionally, from a business aspect, on the job injuries can adversely affect business moral and finances. Insurance rates are quite high once you start going onto roofs.

When climbing onto a roof, we obviously need to use a ladder. Ladder safety goes right along with roof safety. OSHA would LOVE for all of us to use ladders properly!

When choosing a ladder consider the material it is made of. Fiberglass is preferred to aluminum. Why? Fiberglass will not conduct electricity like aluminum. Make sure to always look up before pulling your ladder off your truck. The last thing you want to do is be near or hit a power line with your ladder.

What do you weigh? Ladders have different ratings. The types that hold more weight cost more but will keep you safer. If you are standing on a higher rung and it happens to break, well, it will not be a good outcome.

What is the ladder going to be placed on? Of course, try to choose level ground. We all know that in this line of work that is not always the case. Never stack bricks or rocks to even the ground out. You need an actual device made to do that, one that attaches to your ladder per manufacturer specifications. A tool that does this is the LevelLok. See their website at https://www.levelok.com/product-category/levelers/.

What about keeping the ladder in place once you are on stable ground? No slipping! There are products called Ladder Spurs that attach to the bottom and help keep the ladder in place while you climb. See here: https://www.laddersafetycompany.com/product/ladder-spurs/

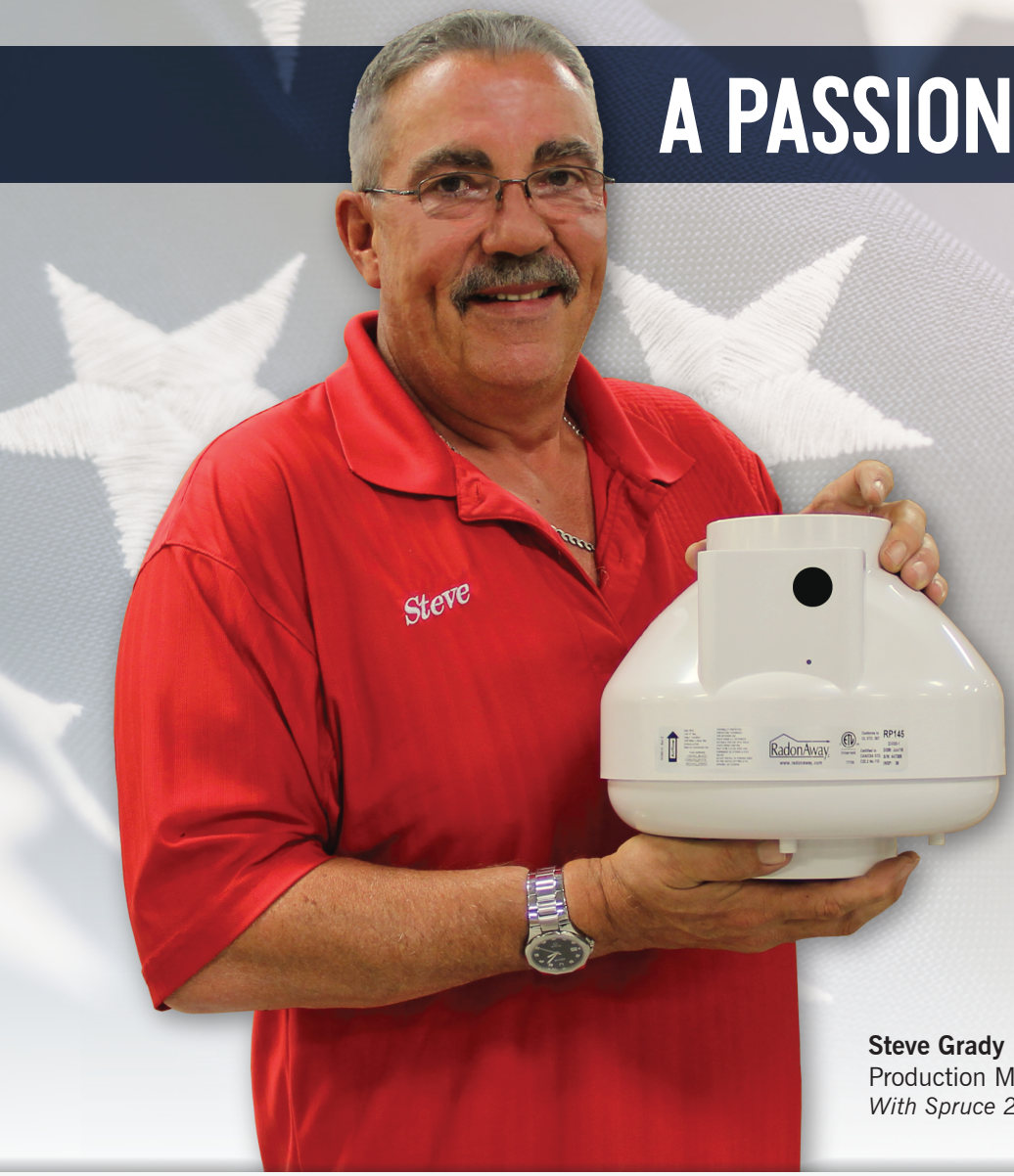
After your ladder is set up against the home, check to make sure that it is a safe situation before you climb. I remember many years ago I set my ladder and as I stepped onto the roof, the ladder kicked back- I almost found out what it would feel like to be a bird made out of lead! When leaning up against a gutter, you can use a device called a Ladder Grip to attach to the gutter. See the website at https://www.laddergrips.com.

When leaning up against a flat wall, not a gutter, a nice stabilizing device can be added on top also. I have found this very helpful when adding clamps to an outside wall at extended heights. There are different brands but here is a website for the ones we have. https://www.littlegiantladder.com/collections/home-top-accessories/products/wing-span

All these things help you get onto the roof. Once on the roof, you obviously want to stay on it till YOU decide to come

*continued on page 19*

# A PASSION FOR QUALITY




**Steve Grady**
Production Manager
*With Spruce 25 Years*

# LEADING THE WAY IN RADON TESTING

For nearly 30 years, the RadonAway® brand has been synonymous with quality radon fans and accessories. AccuStar® testing devices are known for their accuracy and ease of use. Our products are designed and tested by our own team of engineers and in-house experts to ensure that they meet our stringent standards and your needs. We provide top-quality radon training courses to help you meet your knowledge and business goals.

**Quality Products & Accessories • Professional Training**

radonaway.com accustarlabs.com radon.com

ENERGY STAR Most Efficient 2018 www.energystar.gov
RadonAway RP140

# A PASSION FOR SERVICE


**Michele Kaulback**
Customer Service Manager
*With Spruce 25 Years*

**Rick Saulen**
Senior Technical Consultant
*With Spruce 25 Years*

# AND RADON MITIGATION PRODUCTS

Our customers deserve the very best products, service and support…and we deliver. Our customer service staffs receive training geared to ensure that they can assist you with your product inquiries and provide timely test results. Several are trained in radon measurement and mitigation. Our technical support team is led by “Radon Rick”, a licensed and certified mitigator, plumber and electrician. For 25 years, Rick has been helping customers with product, diagnostics, and system design questions.

**Superior Customer Service • Unparalleled Technical Support**

MADE IN USA
With US and Imported Parts

radonaway.com accustarlabs.com radon.com

RadonAway AccuStar AIR CHEK

## *Emerging Research*

# Comparison of Radon Results in 4-Versus 6-Plex Townhouse Units

*by David L. Wilson, Research Staff, Oak Ridge National Laboratory Oak Ridge, Tennessee*

The US Department of Housing and Urban Development (HUD) Federal Housing Administration, Fannie Mae, and Freddie Mac have policies that require radon testing in multifamily properties subject to loan approvals. The agencies permit sampling of substantially less than 100% units (25%, 10% and 10% respectively) in a building to determine if radon levels in that building need to be mitigated. Recently Mike Kitto (NYS Department of Health) and the National Center of Healthy Housing initiated a study, funded by HUD's Office of Lead Hazard Control and Healthy Homes, to review radon test data for 100% of ground- contact units in buildings with five or more units to determine if radon testing of all ground-contact units is necessary to predict radon levels throughout multifamily buildings with five or more units (Radon Reporter Winter 2018).

A key hypothesis of the Kitto study is that current multifamily program recommendations to measure 25% or less of the ground-floor housing units have a significant probability of missing units containing ≥4 pCi/L of radon in the indoor air. Due to the volume of actual measurements to be analyzed for this study, results will more truly reflect the actual housing stock, increase confidence levels of the statistical analyses, and provide new knowledge. An overall goal is to use statistical analyses of the measurements collected from various sizes and styles of multifamily housing to determine the likelihood that less than 100% testing will reliably identify the presence of units with elevated radon, or whether testing less than 100% of units is insufficient to identify units with elevated radon levels.

Past comparisons of elevated radon frequency between single detached, duplex, and townhouses found very little differences between single and individual multifamily units with respect to finding elevated radon levels as a function of building type or number of units within a building (Wilson, Radon Reporter Summer 2016). However, the multifamily family housing data cited in that study were collected within buildings that ranged from two to four units per building. Therefore, the radon test results and the study's conclusion—test all ground-contact units—would not necessarily be applicable to the Kitto study of radon test results in buildings with more ground-contact units.

To determine whether there were any significant differences in radon frequency between 4-unit (4-plex) and 6-unit (6-plex) multifamily buildings, an analysis was performed on three different populations of townhouses: one located within an Environmental Protection Agency (EPA) Radon Zone 1 site (Population A) and two others, both located in an EPA Radon Zone 3 site (Populations B and C). Within their respective population grouping, all units were two stories, identical in construction and floor plan, and were constructed by the same contractor over a 1- to 2-year period. In addition, each unit had its own separate, ducted forced-air heat pump. Long-term radon testing was performed using alpha track detectors (ATDs) for a period of 180 days. All detectors were placed in accordance with EPA residential sampling protocols (EPA 402-R-92-003) along the centerline of each unit. Follow-up testing (short-term, 7-day electret) was performed in all units in which the ATD test results were ≥4 pCi/L, and all elevated results were confirmed.

**Table 1. Testing result summary**

| Housing group | EPA radon zone | Number of units per building | Total units | Total number of buildings | Units ≥4 pCi/L | Average pCi/L | Minimum pCi/L | Maximum pCi/L |
|---|---|---|---|---|---|---|---|---|
| A | 1 | 4 | 84 | 21 | 51 | 8.1 | 0.2 | 66.4 |
| | | 6 | 126 | 21 | 81 | 9.0 | 0.2 | 133.3 |
| | | All | 210 | 42 | 132 | 8.6 | 0.2 | 133.3 |
| B | 2 | 4 | 64 | 16 | 2 | 1.5 | 0.2 | 7.9 |
| | | 6 | 102 | 17 | 3 | 1.3 | 0.2 | 5.1 |
| | | All | 166 | 33 | 5 | 1.4 | 0.2 | 7.9 |
| C | 3 | 4 | 92 | 23 | 0 | 1.6 | 0.2 | 3.1 |
| | | 6 | 144 | 24 | 0 | 1.3 | 0.3 | 2.9 |
| | | All | 236 | 47 | 0 | 1.3 | 0.2 | 3.1 |

The radon testing summary (Table 1) shows three distinct housing groups with entirely different testing conclusions. Population A has the highest frequency of elevated radon levels (63%), followed by Population B (3%) and Population C, which had no units with elevated radon levels. With respect to the number of elevated units per building (Table 2), Population A exhibits every possible combination of units within buildings with or without elevated radon levels. Of particular concern is the fact that a population with 63% of the units with elevated radon levels (Population A) 10% of the buildings only had 1 unit with elevated radon levels. In addition, three of the four buildings in Population B (3% elevated radon levels) had only 1 unit as well. This brings into question whether these units would have been identified if 100% testing had not been used. With respect to consistency of radon levels within individual multifamily buildings, examination of the results in Table 3 shows a wide coefficient of variation (CV) range for buildings with or without elevated radon levels. The best CV agreement was found in Population C, which had the lowest elevated radon potential. For buildings in which at least one unit was found to have elevated radon, the CV was on average twice that of Population C (Tables 3 and 4). The same was also true for buildings in which all the units had elevated radon levels (Table 5). Therefore, the observed trend (Tables 3, 4, and 5) suggests that unit-to-unit variation within the same building increases along with increasing radon potential.

With respect to data distributions, analysis of the distributions within Populations A and B (Figures 1 and 2) normalized to the specific population size shows virtually identical data distribution patterns in both natural data and logarithm plots for both the 4-plex and 6-plex units for populations containing elevated radon levels.

**Table 2. Comparison of number of units with elevated radon levels per building**

| | Housing Group A | | Housing Group B | |
|---|---|---|---|---|
| Number of units per building with radon levels ≥ 4pCi/L | Number of buildings with 4 units | Number of buildings with 6 units | Number of buildings with 4 units | Number of buildings with 6 units |
| 0 | 2 | 2 | 14 | 15 |
| 1 | 3 | 1 | 2 | 1 |
| 2 | 5 | 2 | 0 | 1 |
| 3 | 7 | 5 | 0 | 0 |
| 4 | 4 | 1 | 0 | 0 |
| 5 | N/A | 5 | N/A | 0 |
| 6 | N/A | 5 | N/A | 0 |
| Total | 21 | 21 | 16 | 17 |

*continued on page 12*

# Evaluation of Percentage-Based Radon Testing Requirements for Federally-Funded Multi-Family Housing Projects

*by Antonio (Tony) Neri MD, MPH, Division of Scientific Education and Professional Development, Center for Surveillance, Epidemiology, and Laboratory Services, Centers for Disease Control and Prevention*

Abstract: Radon is a leading cause of lung cancer. Recommendations for radon testing in multi-family housing focus on testing a percentage of all units. There is considerable variability among recommendations as well as their implementation. We used the hypergeometric distribution to determine the probability of identifying one or more units with radon at or above 4.0 pCi/L for two prevalences (1:15, the U.S. average) and 1:3 (for states with many homes with radon ≥4.0 pCi/L) using two approaches. First, the distribution was used to evaluate the probability of finding one or more units with radon at or above 4.0 pCi/L when: 1) testing 10% or 25% of a range of ground-floor units, or 2) testing a varying percentage of units in 10-, 20-, or 30- ground-floor unit buildings. Second, the method was used to determine the number of units to be tested to identify one or more units with radon at or above 4.0 pCi/L with 95% probability given a range of total ground-floor units. Methods identified that that testing 10% or 25% of ground-floor units had low probability of identifying at least one unit with radon at or above 4.0 pCi/L, especially at low prevalence. At low prevalence (1:15), at least 10 units need to be tested in structures with 20 or fewer total units; at high prevalence (1:3), at least five units need to be tested in units with structures having 10 or fewer units to achieve 95% probability of identifying at least one unit with radon at or above 4.0 pCi/L. These findings indicate that recommendations for radon testing in multi-family housing may be improved by applying a well-established and more rigorous statistical approach than percentage-based testing to will more accurately characterize radon exposure to radon in multi-family housing units, which could improve lung cancer prevention efforts.Source: Journal of Occupational Health and Hygiene, January 2019 https://www.ncbi.nlm.nih.gov/pubmed/30620246

*continued from page 11*

# 4 - Versus 6-Plex Townhouse Units

**Table 3. Comparison of coefficient of variations within buildings with one unit with elevated radon levels**

| Population | Number of units per building | Number of buildings ≥4pCi/L | Composite average pCi/L | Composite standard deviation | Minimum coefficient of variation (%) | Maximum coefficient of variation (%) | Composite coefficient of variation (%) |
|---|---|---|---|---|---|---|---|
| A | 4 | 3 | 2.9 | 2.3 | 49 | 112 | 78 |
| A | 6 | 1 | 1.8 | 1.6 | N/A | N/A | 91 |
| B | 4 | 2 | 3.2 | 2.1 | 43 | 89 | 66 |
| B | 6 | 1 | 1.6 | 1.3 | N/A | N/A | 77 |
| | All | 7 | 2.7 | 2.0 | 43 | 112 | 76 |

**Table 4. Table 4. Comparison summary of buildings with and without elevated radon levels**

| Buildings with all results <4 pC/L | | | | | | | |
|---|---|---|---|---|---|---|---|
| Population | Number of units per building | Number of buildings <4 pCi/L | Composite average pCi/L | Composite standard deviation | Minimum coefficient of variation (%) | Maximum coefficient of variation (%) | Composite coefficient of variation (%) |
| A | 4 | 2 | 0.5 | 1.0 | 62 | 139 | 100 |
| | 6 | 2 | 1.0 | 0.9 | 92 | 101 | 97 |
| | All | 4 | 0.8 | 1.0 | 62 | 139 | 99 |
| B | 4 | 14 | 1.3 | 0.6 | 8 | 28 | 16 |
| | 6 | 15 | 1.2 | 0.7 | 30 | 89 | 53 |
| | All | 29 | 1.2 | 0.6 | 8 | 89 | 35 |
| C | 4 | 23 | 1.3 | 0.3 | 0 | 56 | 27 |
| | 6 | 24 | 1.3 | 0.6 | 14 | 65 | 37 |
| | All | 47 | 1.3 | 0.5 | 0 | 65 | 32 |
| **Buildings with one or more results ≥4 pCi/L** | | | | | | | |
| Population | Number of units per building | Number of buildings <4 pCi/L | Composite average pCi/L | Composite standard deviation | Minimum coefficient of variation (%) | Maximum coefficient of variation (%) | Composite coefficient of variation (%) |
| A | 4 | 19 | 8.9 | 6.0 | 25 | 118 | 69 |
| | 6 | 19 | 9.8 | 8.1 | 39 | 123 | 72 |
| | All | 19 | 9.4 | 7.1 | 25 | 123 | 70 |
| B | 4 | 2 | 3.0 | 2.1 | 43 | 89 | 69 |
| | 6 | 2 | 2.4 | 1.4 | 51 | 77 | 65 |
| | All | 4 | 2.7 | 1.8 | 25 | 123 | 70 |

**Table 5. Analysis of Population A units with all units within a building having elevated radon levels**

| Number of units per building | Number of buildings ≥4 pCi/L | Composite average pCi/L | Composite standard deviation | Minimum coefficient of variation (%) | Maximum coefficient of variation (%) | Composite coefficient of variation (%) |
|---|---|---|---|---|---|---|
| 4 | 19 | 20.6 | 13.9 | 42 | 70 | 62 |
| 6 | 5 | 19.1 | 17.0 | 40 | 123 | 74 |
| All | 10 | 19.7 | 15.3 | 40 | 123 | 69 |

In summary, based on the data analyzed, elevated radon frequency levels within units residing in either 4-plex or 6-plex townhouse units are virtually indistinguishable. Therefore, the testing approach within 6-plex townhouse buildings would need to be the same as that applied in 4-plex units (test all ground-contact units). Furthermore, unit-to-unit variation in radon levels within the same building appears to increase along with the radon potential, making it more difficult if not impossible to estimate with a high degree of certainty the likelihood of the presence of elevated radon levels in the remaining untested units within the building.

**Figure 1. Survey radon data distribution for Housing Group A for results <21 pCi/L.**

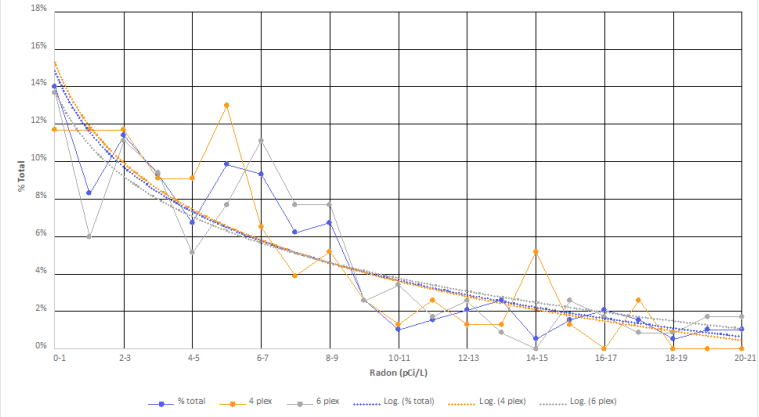
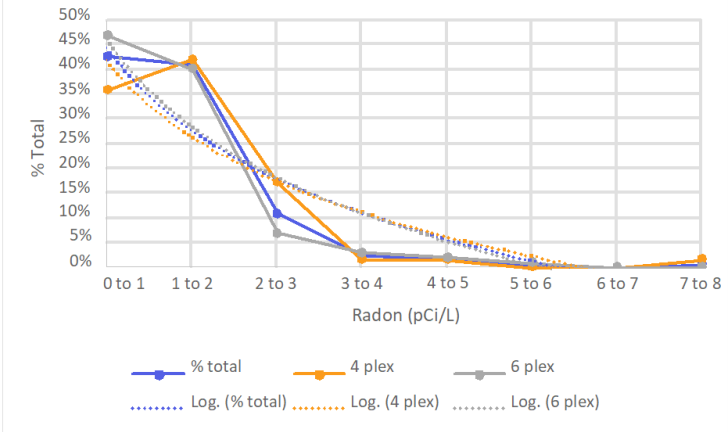



**Figure 2. Survey radon data distribution for Housing Group B.**



# LARGEST RADON LAB FACILITIES

# NEW ACCUSTAR AND AIR CHEK LABS

We're ready to serve all your radon laboratory needs even faster than before! Our new AccuStar lab facility in Ward Hill, Massachusetts, has it all: New facility, new state-of-the-art equipment, and additional staff for quick turnaround and personal customer service. Our PA lab continues to provide prompt, efficient professional test devices and analysis. We're proud to add Air Chek radon testing products and laboratory services in North Carolina to the Spruce family. Claiming the well-earned reputation for "The Most Widely Used Radon Test Kits in the World," Air Chek brings important new facets to our overall laboratory services.

**Unequalled Laboratory Services • Rapid Results Reports**

radonaway.com accustarlabs.com radon.com

MADE IN USA
With US and Imported Parts (Products)

RadonAway AccuStar AIR CHEK

# Recruiting in a New Era of AARST

*By Phil Rivas, AARST Membership Committee Chair*

Any worthwhile cause starts with stating a goal, "To save lives through the effective mitigation of radon where we live, work, learn and play."

We know the threat all too well. We know how to deal with it. We know our individual missions. We listen to the testimonials at chapter meetings and conferences. We internalize the heartbreaking and uplifting stories that drive us forward, knowing we are making a difference one installation at a time. One home at a time. One family at a time.

If our message is so clear and so pure, why does it seem like membership has plateaued in recent years? Almost every person we encounter at the symposiums and chapter meetings seem to be filled with the enthusiastic determination to share the message, yet our numbers have remained about the same.

Recruitment is defined merely as, "the act of finding new people to support an organization for a cause." Support for an organization must come from a passion for the cause. A belief in the simple goal set in front of the membership. An ongoing assumption that the decisions,utilization of resources, and the messaging of the organization are serving that goal.

> *"The creation of a plan that will bring new initiatives to drive membership and participation across the country"*

The first step to solving any problem is admitting there is one.

So here it is, the challenge we must face-

Our recruitment is stagnant.

Radon is a real problem, a serious life-threatening problem, and the mass ignorance of its existence is the never-ending battle we all fight. Many companies and individuals around the country struggle to see the value in joining either AARST national or the local chapters. Without an influx of new memberships, an organization can suffer from a vast number of limiting factors, not the least of which is a shortened life span.

Many of you are working each and every day, diligently spreading the word of the hazards of radon. We see it on the social media feeds, on local news programs and that is admirable. We should encourage each and every mention,


like, and hashtag because they all add to the collective message. Archimedes said, "Give me a place to stand on and I will move the earth." We all know the power of leverage.

Want to lift a really heavy object? All it takes is leverage. You need a big enough lever and the fulcrum on which to rest it. What more significant lever is there, than the threat of an unyielding foe who is easily deflected, yet never surrenders? The fulcrum lay with our ability to evangelize the message of radon awareness beyond our current numbers.

The goal of the AARST Membership Committee is straightforward and simple; to grow our AARST membership numbers. The creation of a plan that will bring new initiatives to drive membership and participation across the country is a priority. Our current members are essential to that plan and over the next few months, we will be reaching out to you. We want you to help provide value-added messaging for our industry. Consider what brought you into the AARST community, what keeps you in, and what you want to see incorporated; think about your wish list.

Your insight for both prospective and current members alike will help us bring AARST out of stagnation and into a new era that is thriving, growing, and steadfast in our goal to save lives.

Your input matters. Your voice matters. Your time matters.



# Chapters and Events

## Northwest Radon Coalition NRAM Success


*Kari Christensen, Radon Program Coordinator, Oregon Health Authority, Public Health Division, Environmental Public Health*

*Curtis Cude, Environmental Public Health Surveillance Program Manager, Oregon Health Authority, Public Health Division, Environmental Public Health*

Congratulations to the Northwest Radon Coalition for hosting a successful forum during NRAM! The event was attended by over 100 guests and featured experts from the Environmental Protection Agency, Portland State University, the Oregon Health Authority, Portland Public Schools, real estate and radon professionals from the local community.

Co-sponsored by the American Lung Association, Oregon Health Authority, and the Northwest Radon Coalition, the 7th annual Radon Forum Northwest was held Wednesday, January 30th, 2019 at Harrison Park School in Portland, OR.

The moderator was Portland State University's Dr. Scott Burns (Professor Emeritus of geology); panelists were from the Oregon Health Authority (Kari Christensen), Portland Public Schools (Joe Crelier), the radon profession (Tamara Linde with Cascade Radon, Jay Jacobs with Environmental Works), EPA Region 10 (Jim McAuley), and RMLS (Realtor® Maureen Bonfiglio). After the panel's presentation, each expert addressed questions from the audience for some 40 minutes.

Topics presented included an extensive overview of radon and the region with a discussion on health implications. Additionally, testing and mitigation processes were explained. Please visit their site to view a gallery of images from the event at https://northwestradoncoalition.com/radon_forum_northwest/.

**2019 Chapter Meetings and Stakeholder Meetings** are in full swing. Visit the AARST Events Calendar for upcoming meeting dates and locations: http://aarst-nrpp.com/wp/events-calendar/

**March 22 Springfield, IL** MWAARST Chapter meeting

**April 4 Columbus, OH** OARP Spring CE

**April 18 & 19 Salt Lake City, UT** Region 8

# Adding Testing and Clarity to Appendix F

Installation of radon control is required for new homes in all counties in three states, in EPA Radon Zone One counties in another six states, and in many localities in other states. Builders surveyed by the Home Innovations Research Lab reported including radon control in one in four homes built in EPA Radon Zone Two counties in 2016.

Appendix F of the International Residential Code® was developed in the early 1990's to supply a minimal radon control system in the IRC. Understanding of what works has grown since that time. Although there are issues with construction personnel correcting following what's in the code, there are also problems with the text of Appendix F, such as the need for more specifics on the vent pipe connector and the submembrane soil gas retarder, and for allowing access to the vent pipe and sufficient headroom for a fan if system activation is required.

AARST has submitted two proposals for strengthening Appendix F during the 2019 code change cycle:

1. To address longstanding issues with the language in Appendix F, clarify some construction details, eliminate significant installation problems.
2. To create in Appendix F a requirement after installing radon control to test for radon in accordance with ANSI-AARST MAH, mitigate radon levels of 4 pCi/L or greater, and retest until results are below 4 pCi/L.

These proposals will be considered by a committee of the International Code Council in May in Albuquerque and by ICC voting members in the fall (in-person in Nevada and online voting). The ICC voters are local and state code officials. AARST chapters and members are invited to reach out to local ICC members to advocate for improving Appendix F through these proposals.

Changes accepted in 2019 will be in the 2022 edition of the International Residential Code®. The next opportunity to change this code will not occur until 2022.

# AARST Member Benefits Raise the Bar

A little over six months ago, AARST announced several new exciting benefits to its members. The growth that our membership benefits package has seen in the last year is very different from previous years.

Savings opportunities are varied, from fleet maintenance and travel discounts to business operations discounts. We realize that many people do not look into their benefits until they need something. We then think about the association we belong to and "check and see" what our membership gets us. We want to remind YOU that your AARST membership gets you A LOT!

We say: Who doesn't like to save a few thousand dollars when buying a new car? Are you sure your current insurance plan is specifically designed just for the radon tester or mitigator? Would you like new office equipment or even family vacation discounts?

The AARST Membership Committee is reaching out to YOU, our members, and asking you to log in and review your benefits. In just a few weeks, we will also be inviting you to participate in a short member survey to help AARST make your membership benefits package even more valuable to you. Please give us your feedback.

Ford Partner Recognition X-Plan Vehicle Pricing

DELL MEMBER PURCHASE PROGRAM

FedEx Office

GUARDIAN FINANCIAL

Orlando Employee Discounts

Valvoline Instant Oil Change

Watson Insurance

ARMR network Better Insurance by Design

HP Employee Purchase Program

OREP Organization of Real Estate Professionals

HB HOME BINDER

T-Mobile

Nelson Insurance Agency, Inc. A member of Nelson Insurance Group

verizon

jiffy lube

MIDAS

NAPA AUTOCARE CENTER

MONRO MUFFLER/BRAKE & Service

Pep Boys

meineke car care centers | On with life.

# NY Creates a Radon Prevention Task Force

New York Governor Andrew Cuomo has signed into law Chapter 414 of 2018 which established a "radon task force" to conduct a comprehensive study on the prevention of human exposure to radon and make recommendations to reduce and minimize exposure to New York state residents. The law resulted from bills sponsored by Assembly Members Donna Lupardo and Cliff Corouch and Senator Fred Akshar. The NY State Chapter of AARST advocated for state action and looks forward to the results of the task force.

### The scope of the study includes:

1. Examine the need for interagency coordination of public education and outreach and prevention programs;
2. Examine the need for training, education and possible licensing of radon services providers; and
3. Review of any other related information that the commissioner of health may deem necessary or relevant in carrying out such study of radon in indoor settings.

The task force is expected to report its findings and recommendations, including any proposed legislation necessary to implement such findings, to the legislature and Governor no later than April 1, 2019.



*continued from page 7*

# Ladder and Roof Safety

*By David Daniels, AARST President*

down. You do not wish gravity to make that decision for you. There are plenty of products to help you with this, commercial and residential.

Long ago if there were a steep roof, we would use a product called a Kozy Kollar. https://www. kozykollar.com/. This is a flashing that can actually be installed from inside of the attic. They are easy to install, but I have heard some people say they have had issues with them leaking. The main reason that happens is that the nuts get over tightened on the bolts which cause it to flex. As long as they are snug enough to see some caulk squirt out on the side, they should not leak. A tip: Add lock nuts also to make sure the manufacture nuts don't come loose over time.

Another excellent product for steep roofs is the Goat Steep Assist. See their website here: http://www.thegoatsteepassist. com/. Ingenious, but simple idea to keep you safe. A similar device called the Hipp Lock can also be used. https://www. hipplock.com.

Then there are the standard harnesses you can get from just about any contractor supply business. There are many YouTube videos which demonstrate how to set them up on a roof. You need to install an anchor on the roof to connect a rope, which will connect you with the harness. It will allow you to walk around the roof safely. In our line of business, you should only be working in the area where the radon vent pipe will be going through the roof.

Lastly and quite essential, is to visually inspect the roof before going on it. Ask the owner questions if you can about the roof. How old is it? Last time anyone worked on it? Are there any issues with it, such as leaks? You want to be able to walk on a sound surface while you're up there.

All these things cost money. But once you have them and you take care of them, they will last a very long time. Most importantly, they will protect you and your employees. That to me is priceless. Keep OSHA happy and yourself safe.

| State Radon Policies in 2018 | | | | | | |
|---|---|---|---|---|---|---|
| State | RRNC Required | | Home Buyer Protections | | Radon Professionals | |
| | All counties | Zone 1 only | Awareness/ Warning | Disclosure | State License | NRPP certification |
| Alabama | | | | | | |
| Alaska | | | | Yes | | |
| Arizona | | | | | | |
| Arkansas | | | | | | |
| California | | | | Yes | Yes | Yes |
| Colorado | | | | Yes | | |
| Connecticut | Yes | | | Yes | | Yes |
| Delaware | | | Yes | Yes | | |
| Florida | | | Yes | | Yes | |
| Georgia | | | | | | |
| Hawaii | | | | | | |
| Idaho | | | | | | |
| Illinois | Yes | | Yes | Yes | Yes | |
| Indiana | | | | Yes | Yes | Yes |
| Iowa | | | Yes | Yes | Yes | |
| Kansas | | | Yes | Yes | Yes | |
| Kentucky | | | | Yes | Yes* | Yes* |
| Louisiana | | | | | | |
| Maine | | | | Yes | Yes | |
| Maryland | | Yes | | Yes | | |
| Massachusetts | | Yes | | | | |
| Michigan | | Yes | | Yes | | |
| Minnesota | Yes | | Yes | Yes | Yes | |
| Mississippi | | | | Yes | | |
| Missouri | | | | | | |
| Montana | | | Yes | Yes | | |
| Nebraska | | | | Yes | Yes | |
| Nevada | | | | | | |
| New Hampshire | | | Yes | Yes | Yes | Yes |
| New Jersey | | Yes | | Yes | Yes | |
| New Mexico | | | | | | |
| New York | | | | Yes | | |
| North Carolina | | | | Yes | | |
| North Dakota | | | | | | |
| Ohio | | | | Yes | Yes | |
| Oklahoma | | | | Yes | | |
| Oregon | | Yes | | Yes | | |
| Pennsylvania | | | | Yes | Yes | |
| Rhode Island | | | Yes | Yes | Yes | Yes |
| South Carolina | | | | Yes | | |
| South Dakota | | | | Yes | | |
| Tennessee | | | | Yes | | |
| Texas | | | | Yes | | |
| Utah | | | | | Yes | Yes |
| Vermont | | | | | | |
| Virginia | | | | | Yes | Yes |
| Washington | | Yes | | Yes | | |
| West Virginia | | | | | Yes | |
| Wisconsin | | | | Yes | | |
| Wyoming | | | | | | |
| TOTAL | 3 | 6 | 9 | 32 | 18 | 6 |

* certification law enacted with implementation pending

# International Radon Reference Facility Intercomparison

## U.S. Pilot Study

*By Melinda Ronca-Battista*

Results are in, and are AMAZING: Half of one percent: that is the difference between reference concentrations in the Bowser-Morner International (BMI) and the Midwest Universities Radon Consortium's Kansas State University (KSU) chambers, based on the results of a pilot study of using a set of three rugged and sophisticated continuous radon monitors as transfer standards, shipped between chambers. This is very reassuring for anyone concerned with the accuracy of radon calibration and spike exposure facilities. Both of these chambers are secondary, meaning that they obtain their radon concentrations directly from the US EPA primary radon reference laboratory in Montgomery, Alabama. Interlaboratory exercises are vital for measurement services and laboratories so that they maintain records of agreement with other facilities, and so they can continue providing calibrations with the confidence that their standard calibration values are consistent with other facilities and international standard reference concentrations. This pilot study evaluated methods and procedures for a full international standard radon concentration intercomparison organized by the Coalition of International Radon Associations (COIRA).

The intercomparison consists of detailed procedures for using a specific set of reference instruments as a benchmark, and shipping the instruments between reference chambers. Participating chambers expose this set of reference instruments to their chamber atmosphere, with temperature, humidity and atmospheric pressure conditions as stable as possible. The time-integrated average of the set of three instruments is used as the benchmark, against which time-integrated chamber concentrations can be compared. This set of three instruments can be shipped between laboratories, and in this way used to produce estimates of relative bias between the laboratories. This pilot test evaluated the instrumentation, procedures for shipping, exposures, communication, handling, and data management. Although BMI and KSU agreed to identification in this report, radon reference facilities in the full international intercomparison report will not be identified with their results.

The goal of this pilot project was to begin establishing a standard measurement method and procedure that can serve as a transfer standard, ensuring that all Rn-222 measurements made in the United States have a traceable record for the accuracy of their radon concentrations. A transfer standard method consists of instrument specifications, along with a protocol for their use. Some pollutants are unstable at standard temperature and pressure—including ozone, fine particulate matter and Rn-222—and there is no method to ship "standard" concentration canisters for these pollutants. Instead, EPA and other agencies have adopted a "gold standard" approach to measurement methods and protocols, and these methods are used as transfer standards. For example, EPA obtains primary calibration authority for ozone concentrations from NIST using its own EPA ozone photometers. EPA then ships these primary ozone measurement transfer standards to various locations, such as EPA regional offices, where state and local ozone measurement officials can compare the responses of their measurement devices with the transfer standard instruments and calibrate their device responses accordingly. Proper documentation creates a chain of intercomparison records transferring the authority for the known concentration from NIST to the field instruments.

In general, the authority for "truth" lies with the National Institute of Standards and Technology (NIST), except for natural standards—such as temperature, for which natural standards easily are generated by freezing and boiling water at sea level. Unfortunately, NIST ceased its program that provided U.S. entities with an atmosphere with standard Rn-222 concentrations for use for calibrations. At this point, radon calibration facilities can purchase radium in water or solid emanation standards from NIST, dilute the radon emissions from the standard with carefully measured volumes of air, and thereby produce their own concentration standards against which to calibrate their exposure chambers' "reference" concentrations of radon in air. There are, of course, engineering and metrology challenges associated with producing stable concentrations of radon in air, but the accuracy of radon reference laboratories can be documented and improved by participating in benchmark intercomparison studies.

The U.S. EPA's National Air and Radiation Environmental Laboratory (NAREL) generates a known concentration of radon in air from NIST sources but does not operate an exposure chamber in which devices can be placed. Instead, NAREL provides a service to secondary chambers in which it fills scintillation cells with air containing a known concentration of radon. These cells are shipped to "secondary" chambers where the operators analyze the concentrations and use the result to calibrate their radon chambers. Tertiary chambers, which do not analyze scintillation cells that are filled by NAREL, must calibrate their chambers through intercomparisons with the secondary chambers, generally using their own equipment. There is no systematic and EPA-recognized way for tertiary chambers to benchmark and compare their own concentration measurements.

The results of the pilot study are reassuring, both in regards to the stability and internal agreement between the AlphaGUARD instruments used, and the agreement between the BMI and KSU chamber concentrations. The data from the BMI and the KSU exposures demonstrate a difference between the measured average concentrations in each chamber of less than 0.5%. Hour-by-hour agreement between the slightly varying chamber concentrations is also very close, as shown in the following charts.


# Broad Coverage AND Competitive Pricing

# Insurance Coverage for Radon Professionals and Home Inspectors

OREP
ORGANIZATION OF REAL ESTATE PROFESSIONALS

## WHAT OUR CLIENTS SAY

"I appreciate the great service and consideration in providing the best coverage for the best price (not to mention saving me over $100!). Thank you!" –George Post

"Thank you. We sure do appreciate everyone at OREP. Worry free service year after year!"
– Alan, HousePro Home Inspections

"You guys are GREAT, so fast, so easy, so supportive...my first year I was with another outfit and my experience with you has been the opposite of what it was with them... Thank you so much."
- William Bentley, Bentley Property Inspections

## INCLUDES:

- Broad E&O and General Liability coverage available
- Free Risk Management and Pre-Claim Assistance
- Easy Financing: Low Monthly Payments.
- OREP Professional Support Network: free on-demand inspection support, savings on professional contracts, discounted CE, Working RE Magazine, corporate rates on office supplies, technology & more.

## Visit OREP.org today! (888) 347-5273

OREP–Organization of Real Estate Professionals Insurance Services, LLC. Calif. Lic. #0K99465 • Fax: (708) 570-5786 • info@orep.org
E&O Insurance Experts (www.orep.org) • 6760 University Ave. #250, San Diego, CA 92115

fantech®
a systemair company

# LOOKING FOR A WHOLESALE DISTRIBUTOR STOCKING FANTECH RADON PRODUCTS NEAR YOU?

## We got you covered.


## Give us a call to find out the location of your nearest wholesale stocking distributor.

By popular demand, we are pleased to announce that along with our existing Radon specific distribution partners, Fantech products are currently stocked in a variety of wholesale distribution locations around the country. Chances are, we already have fans stocked nearby you.

**Nationwide Partners Such As:**

JOHNSTONE SUPPLY

FERGUSON®

**Benefits of local distribution:**

- Free local delivery
- Locally stocked
- Local sales support
- App/web based ordering
- Credit Terms*
- Tools, Piping and Accessories stocked locally

*subject to approval through local distributor branches

www.fantech.net • 800.747.1762

fantech®

AARST™
RADON PROFESSIONALS
SAVING LIVES

*475 S Church Street, Suite 600*
*Hendersonville, NC 28792*

***Keeping you updated on issues and events in your field.***

***Visit our website at www.aarst.com***

***@StopRadon***
***Dallas Jones: @Dallas_RadonPro***

***@RadonProfessionalsSavingLives***

***Groups: AARST***

# AARST International Radon Symposium™ and Trade Show

## DENVER
## SEPT 9-11, 2019

www.internationalradonsymposium.org