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GRAPHIC DESIGN

Astrid Lyons, Dos Diablos Design
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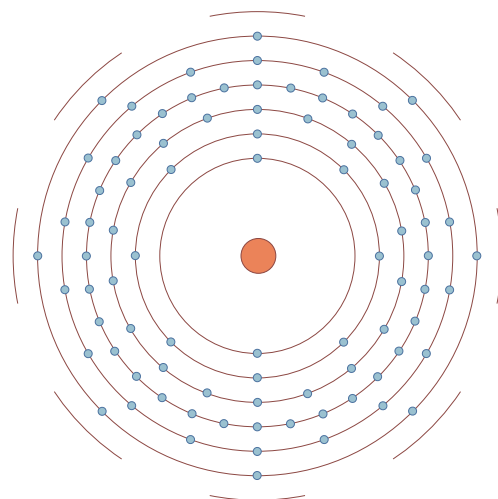


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AARST™, the American Association of Radon Scientists and Technologists, is a nonprofit, professional organization dedicated to the highest standard of excellence and ethical performance of radon measurement, mitigation, and transfer of information 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 and vapor intrusion industry professionals and the community. Your membership and participation provide you a voice in the changes to come, and allow you to gain updated information, discover new techniques, learn about new problems before they occur, and hone your professional skills.

LETTER FROM THE AARST EXECUTIVE DIRECTOR



Diane Swecker

It is with great enthusiasm that I join the AARST organization and the many professional members who are the industry and practice champions working to reduce the risks of radon exposure. AARST membership is a great example of the value of a professional association membership. My experience with professional associations continues to affirm the substantial value membership adds for one's professional and personal life.

The benefits of professional membership are numerous. Important continuing education and training opportunities in most professional associations are regularly offered. Professional development, often required annually, offered by a professional

association can be a good way to satisfy these requirements effectively and economically. Another benefit is the networking opportunities, where connecting with others in industry and practice can generate many positive possibilities. Regular collaboration between members provides progress in leadership development, team building skills, as well as advancement in becoming a subject matter expert in a field. Many activities in a professional association can be a valuable way to keep informed of leading-edge knowledge, practices, and professional opportunities. This can spur a renewed enthusiasm for the practice. Membership can also provide opportunities to support a better-quality life working locally, nationally, or even globally. This last element, especially, can realize significant personal satisfactions in work for the greater good.

“Regular collaboration between members provides progress in leadership development, team building skills, as well as advancement in becoming a subject matter expert in a field.”

The importance of AARST as a professional association is demonstrated by the success of AARST's policy work, which includes \$80 million for state radon programs over the last 10 years, more protective multifamily lending radon policies, the addition of a testing requirement to Appendix F in the International Residential Code, the increasing adoption of the ANSI-AARST standards by federal and state agencies, and the enactment of state laws to require credentials for radon professionals and protect the public from radon exposure.

AARST, as the premier association for Radon and Vapor Intrusion Professionals, will continue the progress as the leading champion to minimize risk of radon exposure. As that leader AARST looks to help support the industry in a variety of ways. Later in January newly updated AARST standards will be available. Another important goal recently set is to help support those small organizations and members by offering a group health plan from AARST. Updates will be provided later in 2023.

The 37th Annual International Radon and Vapor Intrusion Symposium will take place in Nashville, TN, October 29th through November 1st, 2023. This premier event attracts many industry and practice professionals, many of which are AARST members. The call for abstracts and presentations is presently open. I look forward to meeting you in person!

A stylized, handwritten signature of Diane Swecker in black ink.



AARST Symposium 2022 Review

The 37th AARST International Radon and Vapor Intrusion Symposium 2022 took place in Bellevue, Washington, from October 23rd to October 26th. Just under three hundred attendees walked through the doors, participated in sessions, and visited exhibitors.

AARST shared Monday's program with the Conference of Radiation Control Program Directors (CRCPD). AARST and CRCPD have held conferences in tandem for decades, offering professionals and state program partners the opportunity to receive information together and interact. For the second year, the Symposium dedicated a second

track on Monday to vapor intrusion. The dual tracks for Tuesday covered science and research plus practice and policy. Wednesday offered one to two-hour-long workshops on a variety of often-sought topics for which the content could not be covered in a typical 15- to 20 minute session. Workshop topics included: Growing your business - Attracting More and Better Jobs, Growing Your Market Footprint to include HUD Multifamily Work, and Growing Your Radon Message in Communities = Successful Media Messaging.

The Opening Reception started off the symposium with a great party in the exhibit hall, which presented 37 exhibitors, including ten exhibiting at the Symposium for the first time. In addition to providing the venue where attendees returned to visit with their suppliers or to check out a new product, the hall served as the hub for impromptu meetings and socializing, especially during mid-morning and mid-afternoon breaks, lunches and Monday evening's Happy Hour. The exhibit hall's early opening on Sunday offered attendees who attended pre-symposium continuing education courses an opportunity to preview the hall and greet the exhibitors.





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SYMPOSIUM

A feature special to the exhibit hall this year was the brainchild of the 2022 Symposium Planning Committee. The committee chose the 2023 theme Growing Our Voice, Saving Lives to focus on Advocacy, which is at the core of AARST's work, and one of the AARST organization's pillars. Growing radon awareness, making changes that protect people from radon, partnering with agencies with the same interest, and working towards legislation to ensure people have the basics of healthy homes, all occur through advocacy. The committee decided to give attendees the opportunity to understand this central element of AARST's mission better, understand what it means to be an advocate, and learn from others what is and can be done to make effectual changes. This was accomplished with an Advocacy Passport, which each attendee received in their welcome bag. The passport was the tool to guide attendees in meeting with and learning from representatives of five specific exhibitors whose work involves advocacy and recording their "observations" regarding take-home lessons in outreach and policy activities. The passports were judged by the Government Affairs Committee's leadership, who selected a winner, Alexandra Bahadori, a staff member at Kansas State University / SOS Radon. [Click here to view the winner and her passport.](#)

The agenda, speakers, and topics were determined as the culmination of a public "call for presentations" combined with the committee and AARST leadership's consideration of additional important topics. The subject matter presented was in the form of updates, practical sessions using new technology, research and studies on radon, and outreach in communities focusing on social justice.

This year's keynote speaker was Dr. Wallace Akerley, a medical oncologist who actively cares for patients with lung cancer and has more than 30 years of experience as a principal investigator on numerous clinical research trials at Huntsman Cancer Institute (HCI), University of Utah. Akerley discussed the dramatic evolution of the scientific understanding of lung cancer through precision medicine, genetics and immunology. He noted the improving mortality trend for lung cancer and the possibility that it could again become a rare form of cancer. In his experience, radon is associated with all forms of lung cancer and will show a large variety of mutations and have a gene signature that mimics radiation or smoking. He described Huntsman Cancer Institute's current groundbreaking study of mice exposed to radon following the radon exposure metrics of human patients, an important effort to clinically identify radon-induced lung cancer.

AARST's annual business meeting took place on Tuesday, where attendees were greeted with a message from the president, Kyle Hoylman. Reports by the association Treasurer, Dan Potter, and the chair of the AARST Foundation, Crystal Lytle were also presented. Kyle recognized several leaders with the President's Award: Gary Hodgden for his continued work on AARST's national consensus standards; Rocky Mountain AARST Chapter for leadership in legislative and coalition building efforts; Lindi Campbell for effective radon risk education efforts; and AARST board member Steve Tucker (posthumously) who was integral in organizing the Northwest Radon Coalition, leading its collaboration with AARST National, and bringing the Symposium to the Pacific Northwest. The new Radon Community Stakeholder Award was presented to Richmond American Homes for leadership in building homes with radon-reducing features.

The annual meeting closed with the announcement of the annual BOD election results. Those who served in leadership roles were thanked for their time and passion for the association, and the new board members were announced and congratulated: George Schambach (VP), re-elected National Directors Aaron Fisher and Dawn Oggier, and newly elected: Lila M. Beckley, PG, Aaron Friedrich, and Duane West.

The 2023 symposium will be held in Nashville, Tennessee, at the Renaissance Nashville Hotel, October 29 - November 1. Save the Date!





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Radon Measurements On Higher Floors In Swedish Multi-Family Houses

Tryggve Rönqvist

Technical Manager for Radonova Laboratories AB in Uppsala, Sweden.

Abstract

The Swedish radon measurement protocol for multi-family houses requires that 20% of the apartments on non-ground contact floors be measured. Radonova has analyzed its radon measurements to estimate how often buildings have apartments on higher floors above the reference level of 200 Bq/m³ (5.4 pCi/L), where no measurements on the ground floor are above the reference level. Buildings without the radon emitting building material “Blue Concrete,” and with five or more measured apartments, were selected in the analysis. In this dataset, 17% of the buildings didn’t have any measurements above the reference level for the measured apartments on the ground floor. The data are discussed in more detail with respect to parameters such as foundation type, ventilation, and building year. About 15-20% of Swedish multi-family houses, without the radon-emitting building material “Blue Concrete,” with basements and with radon levels above the Swedish reference level of 200 Bq/m³ (5.4 pCi/L), would not have been found if no measurements were made on floors above the ground floor.

Introduction

In Sweden, many multi-family buildings have been measured during the last 20 years. A reason for this large number of measurements is that the local authorities have required measurements from multi-family house owners to meet a national environmental goal for testing all multifamily homes before 2020. The Swedish Radiation Safety Authority (SSM) developed measurement protocol (Strålsäkerhetsmyndigheten, 2013) that can be applied to measurements in both single-family and multi-family houses. This measurement protocol is similar to the measurement protocol (ANSI/AARST MAMF, 2017) used in the United States (US) for multi-family buildings. The Swedish and US measurement protocols are compared in Table 1.

There are differences in the required number of measurements on non-ground contact floors, although both protocols require measurements on these floors. The need for measurements on higher floors is sometimes questioned, as if it could be measurements on the ground floor are sufficient. An analysis of the multi-family data in the measurement database of Radonova has been done to compare radon levels on higher floors to the ones on the ground floor.

TABLE (1) MEASUREMENT PROTOCOL REQUIREMENTS IN US AND SWEDEN FOR MULTI-FAMILY BUILDINGS

Measurement requirements	US (ANSI/AARST)	Sweden (SSM)
Measure in every building	YES	YES
Measure on every floor with apartments	YES	YES
Apartments on floor with ground contacts	ALL	ALL
Apartments above non-measured basement	ALL	> 20 %
Apartments on higher floors	> 10 %	> 20 %
Detectors per apartment (minimum)	1	2

Methodology

Currently, the radon database of Radonova consists of more than 340,000 long-term average measurements in Swedish single-family houses and more than 440,000 measurements in multi-family houses. The majority of the measurements in single-family houses (55%) were performed during 2005-2010 and the majority of the measurements in multi-family houses (43%) were performed during 2015-2020. An analysis of these data has been conducted and

published (Rönnqvist, 2021). The multi-family data was from measurements performed during 2017-2020 in multi-family buildings with five or more measured apartments. In that study, it was found that 20% of buildings with slab on grade foundation type had higher average radon levels on higher floors compared to the ground floor. The corresponding value, where the ground floor had no ground contact, like with basement foundations, was 38%. Many Swedish buildings have been built with a radon-emitting lightweight concrete, "Blue Concrete." More consistent radon level distributions between floors are expected in these houses compared to buildings without this material. To better understanding buildings where radon from the soil is the primary source, buildings with this building material should be excluded from the analysis.

A new study has been performed where only multi-family buildings without the "Blue Concrete" building material were included. These measurements were performed during 2014-2021. The main question asked in the study was how many buildings with levels above the Swedish reference level of 200 Bq/m³ (5.4 pCi/L) would not be found if measurements were performed only on the basement and ground floors. Therefore, only buildings with measured apartments above the reference level were included. Sometimes, multi-family buildings have no apartment measurements on ground floors, because they may have shops and business premises on the ground floor. Therefore, an additional requirement was that the measured building should have data from both the ground floor and higher floors. The floor number for the apartment was determined using Sweden's national standard apartment number registry to guarantee accuracy of this factor. The results from this new study are presented below.

Results

A general comparison of measurement data on different floors for buildings with basement or slab on grade foundation types is shown in Table 2, where average values for the measured buildings are shown. As can be seen, radon levels are higher on floors with ground contact. Measurements within the same building were analyzed to see how often higher floors have higher values than the floor with ground contact.

TABLE (2) AVERAGE MEASUREMENT DATA FOR DIFFERENT FLOOR TYPES IN SWEDISH MULTI-FAMILY HOUSES WITHOUT "BLUE CONCRETE" BUILDING MATERIAL

Type of floor	Foundation	Measure-ments	Measure points per floor	Average (pCi/L) & Standard Deviation	Values above 5.4 pCi/L (200 Bq/m ³)
Basement	Basement	80	3.0	2.5 (86 %)	18 %
Ground floor or higher	Basement	1503	12.3	1.3 (57 %)	13 %
Ground floor	Slab on grade	656	8.2	1.7 (66 %)	17 %
Above ground floor	Slab on grade	679	10.6	0.9 (50 %)	5 %

The result from this analysis is shown in Table 3, where corresponding workplace data is also shown. It is less frequent that higher floors have higher values than the ground floor when radon values above the reference level are found. For these buildings, 28%, of the multi-family buildings with basements and 11% with slab on grade have higher values on higher floors compared to the ground floor.

TABLE (3) DIFFERENCES BETWEEN DIFFERENT FLOORS IN THE SAME BUILDING

Floor comparison	Foundation	Multi-family houses	Higher floors with higher values	Workplaces	Higher floors with higher values
Higher floors / ground floor	Basement	1288	30 %	1645	36 %
Some value above 5.4 pCi/L	Basement	164	28 %	404	28 %
Higher floors / ground floor	Slab on grade	568	18 %	888	26 %
Some value above 5.4 pCi/L	Slab on grade	110	11 %	194	20 %

(continued)

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“ About 15-20% of Swedish multi-family houses, without the radon-emitting building material 'Blue Concrete,' with basements and with radon levels above the Swedish reference level of 200 Bq/m³ (5.4 pCi/L), would not have been found if no measurements were made on floors above the ground floor. ”

Some buildings had radon levels above the reference level for both the ground and higher floors, as can be seen in Table (4).

TABLE (4) RADON LEVELS ABOVE THE REFERENCE LEVELS ONLY ON SPECIFIC FLOORS IN SWEDISH MULTI-FAMILY BUILDINGS WITHOUT “BLUE CONCRETE” BUILDING MATERIAL.

Foundation	Measured multi-family buildings	Only values above 5.4 pCi/L (200 Bq/m ³) on floors above the ground floor	Only values above 5.4 pCi/L (200 Bq/m ³) on the ground floor	Workplaces	Higher floors with higher values
All	326	17 %	64 %	1645	36 %
Basement	169	20 %	58 %	404	28 %
Basement (5 or more measurements on the ground floor)	63	16 %	60 %	888	26 %
Slab on grade	124	7 %	71 %	194	20 %

TABLE (5) RADON LEVELS ABOVE THE REFERENCE LEVELS ONLY ON SPECIFIC FLOORS IN SWEDISH WORKPLACES

Foundation	Measured workplace buildings	Only values above 5.4 pCi/L (200 Bq/m ³) on floors above the ground floor	Only values above 5.4 pCi/L (200 Bq/m ³) on the ground floor
All	754	13 %	57 %
Basement	209	17 %	56 %
Slab on grade	194	7 %	63 %

TABLE (6) NUMBER OF MEASURED APARTMENTS PER FLOOR IN SWEDISH MULTI-FAMILY BUILDINGS WHERE RADON LEVELS ABOVE THE REFERENCE LEVEL WAS FOUND.

Foundation	Values above 5.4 pCi/L (200 Bq/m ³)	Average number of measured apartments on ground floor	Average number of measured apartments on higher floors
Basement	Only on higher floors	4.3	10.6
Basement	Only on ground floor	7.5	10.1
Slab on grade	Only on higher floors	12.1	22.1
Slab on grade	Only on ground floor	12.3	11.1

Whether radon levels above the reference levels only on higher floors have some correlations to ventilation type and building year was also investigated. As can be seen in Table (7), buildings with natural ventilation more often have higher values only on higher floors. It is also found, as shown in Table (8), that only too high values on higher floors are more frequent in older buildings. These results are partly correlated since older houses more often have natural ventilation. In 55% of the houses built before 1960, the ventilation type was natural ventilation compared to 26 % in the whole data set.

(continued)

TABLE (7) RADON LEVELS ABOVE THE REFERENCE LEVELS ONLY ON HIGHER FLOORS IN SWEDISH MULTI-FAMILY HOUSES WITHOUT “BLUE CONCRETE” BUILDING MATERIAL RELATED TO VENTILATION TYPE

Ventilation type	Measured multi-family houses	Only values above 5.4 pCi/L (200 Bq/m ³) on floors above the ground floor	Only values above 5.4 pCi/L (200 Bq/m ³) on the ground floor
All	326	17 %	64 %
Natural ventilation	81	25 %	50 %
Mechanical exhaust	192	12 %	67 %
Balanced ventilation with heat recovery	37	16 %	68 %

TABLE (8) RADON LEVELS ABOVE THE REFERENCE LEVELS ONLY ON HIGHER FLOORS IN SWEDISH MULTI-FAMILY HOUSES WITHOUT “BLUE CONCRETE” BUILDING MATERIAL RELATED TO BUILDING YEAR PERIOD.

Building year period	Measured multi-family houses	Only values above 5.4 pCi/L (200 Bq/m ³) on higher floors	Only values above 5.4 pCi/L (200 Bq/m ³) on ground floors
All	326	17 %	64 %
-1959	108	27 %	44 %
1960-1979	58	10 %	67 %
1980-1999	84	11 %	77 %
2000-2022	67	13 %	79 %

Discussion

Since the Swedish measurement protocol requires measurements of radon in all apartments on the ground floor with slab on grade foundation type but not for basements, measurement data where 5 or more measured apartments on the ground floor were separately analyzed for buildings with basement. This selection decreased the number of buildings with values above 5.4 pCi/L, only on higher floors, from 20% to 16%. For buildings with slab on grade foundation, the corresponding number was 7%.

As can be seen in Table 5, data from workplaces show very similar results.

Part of the multi-family buildings with basement where radon levels above the reference level only were found on higher floors might be explained with a smaller number of measurements on the ground floor as can be seen in Table 6. However, for buildings with slab on grade, the Swedish measurement protocol requires measurements in all apartments on the ground floor.

Conclusion

About 15-20% of Swedish multi-family houses, without the radon-emitting building material “Blue Concrete,” with basements and with radon levels above the Swedish reference level of 200 Bq/m³ (5.4 pCi/L), would not have been found if no measurements were made on floors above the ground floor. For buildings with slab on grade, the corresponding number is 5-10% in the region. Some houses where higher floors have higher radon values than the ground floor have too high values on both ground and higher floors. The total amount of higher floors with higher values than the ground floor was almost 30% for the multi-family houses with a basement and a little more than 10% for houses with slab on grade. Measurements on the higher floors will give a better understanding of the building's radon situation, which could be important when mitigation work is planned.

References

- 1) Strålsäkerhetsmyndigheten [Swedish Radiation Safety Authority], 2013. Mätning av radon i bostäder- metodbeskrivning,
- 2) ANSI/AARST, 2017. Protocol for Conducting Measurements of Radon and Radon Decay Products in Multifamily Buildings
- 3) Rönnqvist, T., 2021. Analysis of Radon Levels in Swedish Dwellings and Workplaces, Strålsäkerhetsmyndigheten , <https://www.stralsakerhetsmyndigheten.se/en/publications/reports/radiation-protection/2021/202128/>,

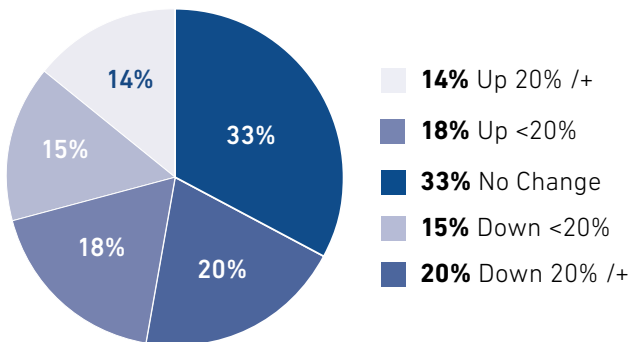
2022 AARST Survey Results

In September 2022, AARST checked in with industry members to better understand the status of their businesses. The following results come from the 263 businesses that responded.

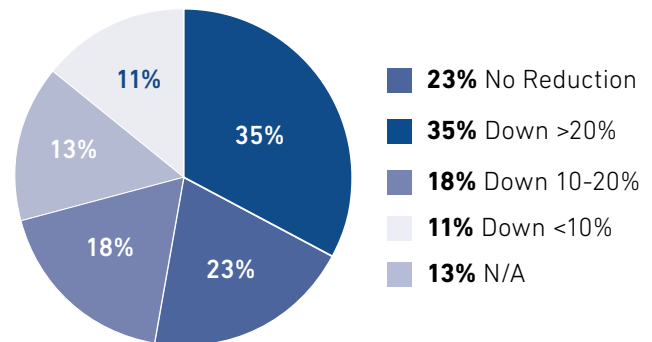
- Services: 51% measurement only, 8% mitigation only, 41% both measurement and mitigation.
- Soil Gas Work: 4% mostly or all VI, 3% 50-50 radon/VI, 27% radon/some VI, 67% radon only.
- Workforce Size: 45% one worker, 35% two to four workers, 10% five to nine, 10% ten or more.
- Longevity of Business: 33% 20+ years, 23% 10-19 years, 23% five to nine years, 21% < five years.
- Clearance Testing Included in Mitigation Cost: 84% yes, 16% no.
- Credentials: 76% NRPP certified, 67% state-credentialled, 10% NRSB certified.

AARST also asked about business challenges given the radical swings in demand for radon services triggered by COVID and the reduction in home inspections/home sales contingency:

HOW HAS YOUR BUSINESS'S WORK CHANGED SINCE COVID?



HAS THERE BEEN REDUCTION IN DEMAND DUE TO NO CONTINGENCY?



AARST also asked what businesses saw on the horizon. More than half anticipate staying steady or growing; one third envision an uncertain outlook; only 2% expect to retire or move on.

Housing Market Matters

Agent Responsibility A November 2022 National Association of Realtors (NAR) article advises its members to not simply go along with waivers of contingency to avoid claims of misrepresentation. "Failure to properly disclose can lead to misrepresentation claims, ranging from fraud to negligence and, in some states, innocent misrepresentation," Deanne Rymarowicz, associate counsel at the National Association of REALTORS®, warns in the latest "[Window to the Law](#)" video. She cites a court case in which an agent was ordered to pay \$170,000 after being found to have shown a "reckless disregard for the truth" by not disclosing a listing's prior water damage. Read the entire article [here](#).

Seller Disclosure [Read the article [here](#)] Cinch Home Services surveyed both homebuyers and home sellers on the kinds of damage they have dealt with and how they remedied it. The results underscore the need for thorough inspection and disclosures. The data show that sellers and buyers proceed with home sales with undisclosed problems:

- 60% of sellers admitted to selling a home with an issue the buyer was unaware of, and 65% admitted to an issue that was worse than the buyer realized
- 74% of sellers admitted to hiding issues with shoddy repairs
- 77% of sellers said their real estate agent encouraged them to mislead the buyer
- 95% of buyers discover issues such as unpermitted work (74%), a known problem worse than expected (57%), and previously unknown issue (52%).

Realtor Survey Result A recent confidence [survey](#) by the NAR reports that realtors are seeing reductions in the number of properties selling within 30 days, inventory is rising, prices are moderating, and the sale to list price ratio is falling but the proportion of cash sales remains around 25%.

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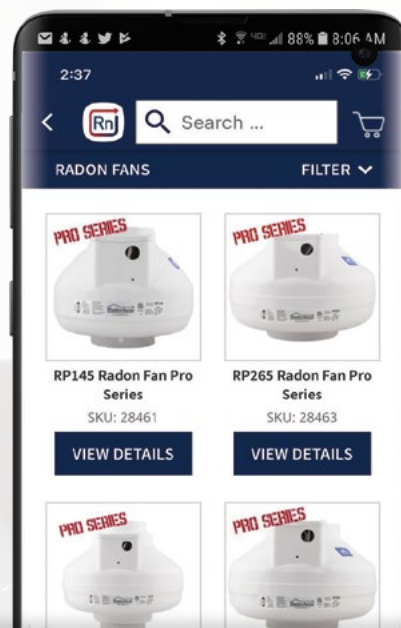


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The Vapor Intrusion Pathway Mini-Series: Legal & Litigation Risks

David R. Gillay, Barnes & Thornburg LLP¹

This is the last in a series of articles focusing on an unseen villain known as vapor intrusion. This article discusses some of the legal and litigation risks associated with this pathway. In addition, this article briefly discusses two recent and nationally significant decisions regarding statutory liability under the Resource Conservation and Recovery Act (RCRA) and qualifying for important landowner liability protections from Comprehensive Environmental Response Compensation and Liability Act (CERCLA) liability.

Vapor intrusion (VI) is the migration of volatile chemicals from subsurface soil and groundwater into buildings. It shares many common characteristics with the intrusion of naturally occurring radon gas into buildings. This emerging contamination “pathway” has affected thousands of closed and contaminated sites across the country.

The VI pathway reveals some of the potential future risks flowing from risk-based closure of contaminated sites. A risk-based approach generally allows the responsible party to tailor the remedy to the real-world exposures at each site, instead of simply removing all of the contaminant or achieving a numerical closure level for unrestricted use in certain environmental media. Risk-based decision-making is a mechanism to integrate source reduction and risk management of a cleanup to ensure it protects human health, applies sound science and common sense, and is flexible and cost-effective. Depending on known or anticipated risks to human health and the environment, an integrated risk-based approach may include monitoring and data collection, active or passive remediation, containment, institutional controls, or a combination of these actions.

To effectively manage liability, a responsible party must find the balance between source reduction and risk management for residual contamination. Evolving VI pathway guidance, new binding legal precedent, and dramatic changes to a contaminant’s toxicity can disrupt this delicate balance.

There are three primary buckets of legal and litigation risks flowing from the vapor intrusion pathway: state and federal environmental statutory liability; toxic tort actions; and contractual claims.

Statutory Liability

RCRA and CERCLA are two different statutes that govern the federal management and cleanup of hazardous waste facilities and response to abandoned, uncontrolled hazardous waste sites, respectively. Most states have mirror statutes and/or simply adopt these federal statutes. There are important differences when a private party seeks relief under these statutes.

RCRA provides two causes of action for private citizens at 42 U.S.C. § 6972(a)(1)(A) and (a)(1)(B). First, subsection (a)(1)(A) of § 6972 provides a claim when a party is in violation of its obligations under the Act. Upon proof of a violation, a court has the authority to enter an injunction enforcing the obligation and can also impose civil penalties. Second, subsection (a)(1)(B) provides a claim when contamination may present an “imminent and substantial endangerment to health or the environment.” A typical claim under RCRA’s citizen suit provision, specifically 42 U.S.C. § 6972(a)(1)(B), seeks a court order restraining a defendant and requiring them to take action, including a complete, timely, and appropriate investigation and abatement of all actual and potential endangerments, which can include the vapor intrusion pathway. These types of claims typically require extensive technical expertise and can be quite complicated.

¹ David leads Barnes & Thornburg LLP’s Environmental department’s remediation, redevelopment, and environmental transactions practices. He has focused on the legal, regulatory, and technical impact and implications related to the vapor intrusion pathway, chlorinated VOCs (with an emphasis on TCE), and potential long-term stewardship obligations related to environmentally challenged properties for nearly two decades. David is a frequent writer and speaker, having participated in a variety of private association, client, and continuing legal and business education seminars with a special focus on vapor intrusion, TCE, and developing cost-effective solutions to manage residual contamination as part of redevelopment projects and the sale of contaminated property. David was recently elected to join the American Association of Radon Scientists and Technologists (AARST) Board of Directors and continues to serve as counsel of record for the Midwestern States Environmental Consultants Association (MSECA). Prior to joining Barnes & Thornburg, he obtained an advanced environmental engineering degree and practiced as an environmental consultant on various projects across the country.

The U.S. Court of Appeals for the Seventh Circuit recently provided a cogent analysis of what constitutes RCRA's "imminent and substantial endangerment" for a site in northern Indiana with vapor intrusion and preferential pathways. See *Schmucker v. Johnson Controls, Inc.*, 477 F. Supp. 3d 791 (N.D. Ind. 2020), *aff'd* 9 F.4th 560 (7th Cir. 2021). In this case, the court confirmed that no imminent and substantial endangerment to human health or the environment existed. This is an important legal decision on hotly contested exposure and assessment principles related to vapor intrusion.

CERCLA created legal mechanisms to encourage cleanup and continued stewardship of contaminated property. The statute provides a vehicle for private parties to invest in environmental response, including remediation, and then recover at least part of those response costs from other potentially responsible parties (PRPs). The U.S. Congress defined PRPs to include four entities: 1) current owners and operators, 2) past owners or operators at the time of the release, 3) persons who arranged for disposal of a hazardous substance at a site, and 4) parties who transported a hazardous substance to a site. See 42 U.S.C. § 9607(a)(1)–(4). CERCLA's liability scheme is strict, retroactive, and has very limited defenses.

In response to CERCLA's draconian liability scheme, Congress amended CERCLA in 2002 to provide an affirmative defense to remediation liability to PRPs who did not release hazardous materials themselves but remain potentially liable by virtue of being a current owner of a site where a prior release occurred. Congress called this defense the "bona fide prospective purchaser" (BFPP) defense. See 42 U.S.C. § 9607(q)(1)(C). To qualify, a PRP must, in connection with the original purchase (or lease) of the property in question, and among other things, make "all appropriate inquiries into the previous ownership and uses of the facility in accordance with generally accepted good commercial and customary standards and practices." 42 U.S.C. § 9601(40). In that way, the BFPP defense shields from CERCLA liability those who invest in contaminated lands and exercise diligence, do not impede cleanup efforts, and meet ongoing obligations.

The Seventh Circuit recently issued a nationally significant decision regarding CERCLA liability and the BFPP defense. See *Von Duprin LLC v. Major Holdings, LLC*, 12 F.4th 751, 773 (7th Cir. 2021). The court made it crystal clear that this affirmative defense requires "full compliance with all requirements in the all appropriate inquiry regulation" as opposed to partial or substantial compliance. All practitioners should consider carefully reviewing this court decision when establishing its BFPP defense to CERCLA liability.

Toxic Tort Actions

There has been a perfect storm centered on the vapor intrusion pathway, which has intensified and fostered a significant increase in new toxic tort litigation over the last decade. During this same decade, U.S. EPA released new controversial studies suggesting that the widely used industrial degreaser, trichloroethylene (TCE), can be toxic at very low concentrations. These studies sparked a revolution with divergent national standards. The vapor intrusion pathway can transport toxic vapors from residual contamination directly into overlying structures, just like the transport of radon gas.

In resulting toxic tort actions that courts have seen, a plaintiff alleges that toxic vapors from residual soil and groundwater contamination, in particular chlorinated solvents like trichloroethylene or TCE, have migrated and entered overlying structures through vapor intrusion. The plaintiff will then request monetary relief, including punitive damages, to address such things as wrongful death of a loved one, interference with the comfortable enjoyment, reduced property value, and that the vapors caused a wide array of bodily and emotional injuries. These cases are fact specific and can be very costly to litigate.

Contractual Claims

Legal liability can spring from various representations and warranties buried in purchase and sale agreements. For example, there is a growing number of alleged breaches of contractual obligations, fraud, malpractice, and for indemnification related to the VI pathway. It is important to carefully review and draft such representations and warranties and to limit any release and/or indemnity to minimize future claims.

The VI pathway can be complex and the science continues to evolve at a rapid pace, but with counsel from legal and environmental professionals, you can successfully redevelop contaminated sites, secure and maintain closure, and minimize legal risk and liability.

This article should not be construed as legal advice or legal opinion on any specific facts or circumstances. The contents are intended for general informational purposes only, and you are urged to consult your lawyer on any specific legal questions you may have concerning your situation. David R. Gillay, Esq., is a Partner in the Environmental Department of Barnes & Thornburg LLP's Indianapolis Office and may be reached at 317.946.9267 or david.gillay@btlaw.com.

A photograph of a red brick building with arched windows. A large blue sign with white lettering reads "NASHVILLE". Overlaid on the image is the text "SAVE THE DATE SYMPOSIUM 2023" in white, bold, sans-serif font.

SAVE THE DATE SYMPOSIUM 2023

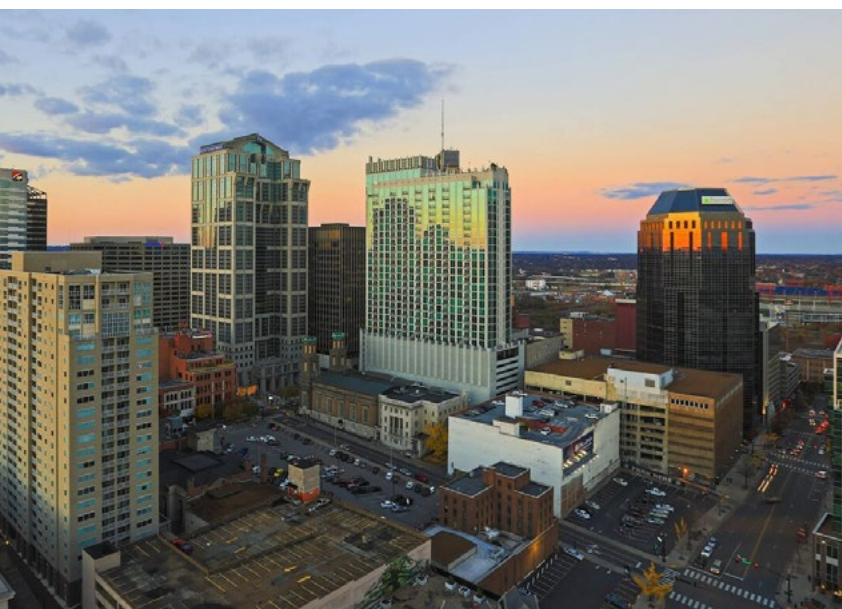
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 - Practice and Policy
 - Vapor Intrusion
 - Science and Research
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- Sunday Courses
- Fun Nashville style gatherings

The Call for Presentations is now open!

Visit

aarst.org/symposium/speakers-guidelines/
for more information

Rental Testing Mandate

Beginning July 1, 2023, Montgomery County, Maryland will require a radon test result below the EPA action level before leasing a rental dwelling unit located in a basement or otherwise having ground-contact. Also, a landlord who receives notice of radon levels at or above the EPA action level from an existing tenant to initiate a follow-up test in accordance with EPA-recommended standards and, if necessary, mitigate to reduce radon

below the EPA action level. The Maryland AARST Chapter, which helped to advance the law, shaped its provision for resolving conflicts between tenant-provided and landlord-provided test results. Montgomery County, the locus of the nation's only requirement for testing before residential sales, has joined HUD, Fannie Mae, Freddie Mac, Boulder County, Iowa City, and Maine in having requirements for rental properties.

Standards Update/Call for Volunteers

Hundreds of volunteer members representing key stakeholder groups, including analytical laboratories, federal and state regulators, radon measurement and mitigation contractors, product manufacturers, training organizations, scientists and academia, and environmental consultants, have developed and continue to maintain standards through participation on multiple committees within the AARST Consortium on National Radon Standards.

Most ANSI-AARST Standards were revised in 2022. The new versions will be published in January. Standards are on a three-year publication schedule, with the next major publication to occur in 2025. Revisions or addenda can be released in the interim if needed. The MAMF and MALB measurement standards have been combined into one measurement standard for multifamily, schools, commercial and mixed-use buildings, MA-MFLB. The RMS-MF and RMS-LB mitigation standards have been combined into one soil gas mitigation standard for multifamily, schools, commercial and mixed-use buildings (SGM-MFLB). The single-family standards remain separate.

CURRENT ANSI-AARST STANDARDS		
Subject	Building Type	
	One and Two-Family	Multifamily, School, Commercial, and Other Mixed-Use Buildings
Mitigation	SGM-SF: Soil Gas Mitigation for Existing Homes	SGM-MFLB: Soil Gas Mitigation Standards for existing Multifamily, School, Commercial, and Mixed-Use Buildings
Measurement	MAH: Protocol for Conducting Measurements in Homes	MA-MFLB: Protocol for Conducting Measurements in Multifamily, School, Commercial, and Mixed-Use Buildings
	MS-PC: Performance Specs for Instrumentation Systems MS-QA: Quality Assurance for Radon Measurement Systems MW-RN: Protocol for Collection, Transfer and Measurement of Radon in Water	
New Construction	CCAH : New Construction of One- & Two-Family Dwellings RRNC: Rough-In	CC-1000: Soil Gas Control Systems in New Construction Multifamily, School, Commercial, and Mixed-Use Buildings

The [Consortium Bylaws](#) describe how standards committees work, criteria for and how members are nominated. They state that the AARST standards development process shall not be dominated by any single interest category and shall seek to achieve balanced representation of primary stakeholders that are materially affected. No single interest category, as individuals or organization(s), shall constitute more than one-third of a consensus body responsible for the content of any specific standard.

New standards committees, for Operation, Maintenance and Monitoring and Mitigation of Radon in Water, have recently started meeting. Existing standards committees for measurement, measurement quality assurance, mitigation, and new construction are being reelected for the 2023-2025 term now.

New committee members are always welcome. Anyone interested in participating in a committee should review the [bylaws](#), especially Annex D, Nomination and Approval Procedures for Consortium Committee Members, and Annex H, Code of Conduct before submitting an [application](#). Questions can be directed to RadonStandards@gmail.com.

News from NRPP

Certification Council

The mission of the Certification Council is to determine certification requirements for obtaining and maintaining certification by the NRPP. This includes assuring that said requirements are attainable and protective of consumer and state radon programs that recognize NRPP certified entities. This further establishes criteria for contributory elements for certification such as requisite curriculum, experience, and examinations.

The new chair of the Certification Council is Ashley Falco. She was elected by the Certification Council December 16, after the concurrence of the AARST Executive Committee, to replace Chris Bonniwell, who resigned in November.

The Certification Council consists of stakeholders representing a cross-section of industry segments. The current members are:

Position	Representative	Term Ends
Radon Mitigation - Residential	Bill Brodhead	11/1/23
Radon Chambers	Bruce Snead	11/1/23
Consumer Interests	Angela Tin	11/1/23
Radon Measurement - Residential	David Metzge	11/1/23
Non-certified States	Justin Otto	11/1/23
Home Inspectors	Jonathan Russell	11/1/23
Radon Measurement - Large Buildings	(vacant)	11/1/23
Radon Mitigation - Large Buildings	Dawn Goard	11/1/23
Radon Equipment Manufacturers	Matt Hendrick	11/1/24
Certified States	Mark Ungerer	11/1/24
Radon Laboratories	Owen Reese	11/1/24
Radon Educators	Dan West	11/1/24
Vapor Intrusion	Chris Lutes	11/1/24
AARST Technical and Science Committee	Jill Newton	11/1/25
Chairperson	Ashley Falco	11/1/25

Opportunity to Serve: Certification Council Seats Open for New Members

The following seats will become vacant in November 2023 because the incumbents will have served for three full terms: Radon Mitigation - Residential; Radon Chambers; Consumer Interests; Radon Measurement - Residential; Non-certified States; Home Inspectors. Applications, consisting of a cover note describing interest and a resume, must be submitted to certification@nrpp.info and are due August 31, 2023.



Changes in NRPP Certification

NRPP Certification Council has determined it necessary to implement a mandatory ANSI-AARST Standards Overview CE requirement in 2023 for all renewing NRPP-Certified Measurement Professionals, Mitigation Specialists, Measurement Field Technicians and Mitigation Installers. The courses will be four CE hours each and will count toward the total CE required for renewal. This new requirement applies to certification renewals beginning July 1, 2023. An individual who is certified in both measurement and mitigation will need to complete both courses to renew both certifications. Completion of such overview courses will be required for all future renewals.

The NRPP Certification Council has also revised the minimum CE requirement, from 16 hours to 12 hours, for individuals certified as measurement professionals or mitigation specialists, to provide parity with the 24-hour CE requirement for individuals certified for both measurement and mitigation, effective January 1, 2023.



The Top Four Website Strategies

Peter Ruchti
Specializing In Radon Marketing
President, AdeptPlus Web Marketing

Let's face it: depending on referrals from realtors, inspectors, and environmental firms for a steady flow of jobs is not a scalable or dependable marketing strategy.

As someone who has helped numerous radon testers and mitigators generate thousands of new jobs, I've seen the industry go through numerous relatively changes in a short amount of time. There was a day when radon professionals had websites essentially because they felt like they had to. It was just another piece of marketing collateral, no different from a flyer. But over time, savvy competitors began to see a world of new opportunities online that didn't exist a generation ago.

I was on the phone with a potential new client and we were talking about how he could get more from his current marketing spend. I asked him a simple question: "how much of your business would you say comes from your website?" His response certainly gave me pause. "At least 80% comes from referrals," he said. It's a response I've heard time and again. But the truth is, you CAN turn your website into a sales machine. If you're willing to try.

The Power of a Mobile-First Website

It is no secret that more Americans than ever use a smartphone for research. If your website takes too long to load on a mobile device, you can be certain that people will quickly hit the "Back" button on their browser. Test your site using Google's PageSpeed Insights tool.

To put this into perspective: across websites, 40% of the users are on mobile devices. In other words, if you're website isn't optimized for mobile, you are potentially losing 40% of your market.

The Unending Importance of Search Engine Optimization (SEO)

Nationwide, more than 93% of ALL online interactions between a business and its target audience still begin in the exact same way: via a search engine. But you can't just buy your way to search engine superiority.

If you want to turn your website into the sales machine it was meant to be, you'll want to optimize for SEO and you'll want to do so as soon as humanly possible.

To start, every single one of your services should have its own page and content. This gives you additional chances for the page to rank highly for your desired keywords. Speaking of keywords, you'll also want to try to organically work in keywords and phrases on your pages like "radon mitigators near me" or "radon testing in multifamily homes" and any variations you can think of. Don't go overboard, as keyword stuffing can get you penalized in Google. But just make sure that all of your bases are covered.

Don't Overlook "Google My Business"

This tip is straightforward, but you'd be shocked by how many people tend to overlook it. Google has a "Google My Business" section that is designed to do exactly what it sounds like - help businesses easily connect with the people they've dedicated themselves to serving. Not only does this get you more visibility in Google, but it can also help your entire website rank higher - which is to say that claiming and filling out your own profile is of the utmost importance.

In addition to including relevant data like your contact information, be sure to upload as high-quality photos of your team and your jobs.

Use Your Website For New Hires

In the end, remember that selling online isn't simply something you're doing just for customers. Hiring new team members can be difficult these days, which is why it's important to make sure your site speaks to potential staffing leads as well.

Don't be afraid to include an entire section on your website that "sells" all of your open (and potentially open) positions to job seekers in your area. Include not only photos of you and your team members (to help highlight your culture), but also go into detail about the benefits of working for you, too.

Final Thoughts

If all of this sounds like a fair amount of effort, well... that's because it is. If you're able to handle these elements, your website will become more than just a virtual business card for your business. It will instantly become the best representative for making a great first impression and ultimately drive more business.

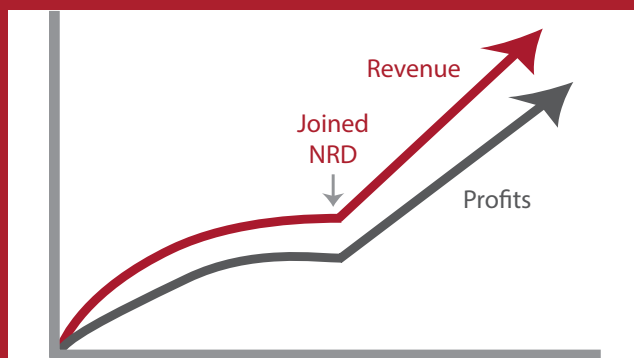


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Welcome New Members to AARST!

JULY: Aron Corey (WY), Blake Hodges (KS), Bob Mennitt (VA), Brian Kennihan (WI), Chad Smith (CO), Douglas Lodge (CO), Eric Andrews (MA), Erik Cox (MA), Jens Housley (WI), Joy Kloss (CT), Kade K McGilvray (WI), Matt Laskowski (FL), Ramon Infante-Valdez (NJ), Robert Hodges (CO), Shelby Amsel (MA), Uttam Kumar Saha (GA)

AUGUST: Aleks Webster (CO), Andrew Thorson (PA), Charlie Gutridge (PA), Jay Sessions (CO), Nathan Gogel (IN), Patrick Pignataro (NJ), Summer Gutridge (PA)

SEPTEMBER: Albert Morris (PA), Brian D Notestein (CO), Daniel Doty (OR), Jennifer Pittman (FL), Jonathan Martinez (CO), Judson Bemis (CO), Julie Kessler (CO), Karen Herrington (KS), Kevin Toll (WI), Kristin Klope (CO), Mitchell Crowe (OH)

OCTOBER: Aarmond J Proctor (CO), Aaron Wagoner (CO), Aaron Wynn (MI), Aetideas Marinakis (WI), Alexander Elizzar (IL), Alexander Johnsen (CO), Alicia Cotton (OH), Alisha Szews (WI), Amanda Pike (CO), Andre Hawkins (GA), Andrea Stephens (KY), Andrew F Kurian (NJ), Andrew R Dodge (IN), Andrew Rance (CO), Antonio Copa (WI), Ashley Mondragon (NJ), Ashley Shann (NJ), Aubrey Trudell (MI), Audrey Sims (KY), Austin Rose (OH), Avery Festa (PA), Benjamin Daniels (WI), Beverly Hanneke (MO), Bill Sublette (WI), Brad Roebuck (OH), Brandi Light (KY), Brandon Brooks (WI), Brandon Spoerl (WI), Brandy Farrell (CO), Brandy Furlong (WI), Brian Priddy (KY), Brian Stewart (WI), Brian Villier (KY), Bryan Frazzini (WI), Cardre Jackson (TN), Carlos Galvan (WI), Charif Simmons (NJ), Charles Randle (NJ), Chris Weiman (CO), Christopher Lemcke (WI), Chrs Carroll (WI), Cody Hall (WI), colton Hawkins (WI), Connor Lemenager (MA), Crystal L Hall (OH), Daniel Gallagher (NJ), Daniel Nigara (NJ), Daniel Pomatto (IL), Daniel S. Stallings, EP (OR), Daniel Taylor (NJ), Danielle Hudnall (CO), Danielle Metcalfe (KY), Danielle Zucker (NJ), Darren S Gunter (NV), David Broadhead (UT), David Eide (WI), David Kulakowski (IL), David Letcher (NJ), David Rojas (NJ), David Scott (MI), Deborah VanDyk (NJ), Denise Sullivan (MD), Derek Kennedy (NJ), Derwin Rodriguez (NJ), Deven Soto (NJ), Dominic Clarin (UT), Dominic Fackrell (UT), Don Lear (IN), Douglas Eckhardt (NJ), Douglas Webster (KY), Doyle Crawford (MI), Drake Crawford (MI), Drew Lovasi (NJ), Elizabeth Humphrey (KY), Ellen Cook (WI), Emily Ambrosi (NJ), Emily Laura (NJ), Emily Magyar (NJ), Eric Motion (MI), Erika Carroll (WI), Evan King (GA), Gary Lusz (WI), Grant Smith (MI), Heather Bennett (KY), Jake Lemanis (NJ), James Martin, Jr (NJ), James Scurlock (OH), James Waligorski (WI), Jan Perez (WI), Janey Henigan (WI), Jasmine Satorre (NJ), Jason Haley (CO), Jeff Noltner (WI), Jeffrey Gray (MI), Jennifer Fusco (NJ), Jennifer Rowley (CO), Jeremy Porter (UT), Joanne H. Grammer (NJ), Joe Daniel (WI), John Cooke (IL), John Cowell (NJ), John Frade (NJ), John Metallo (UT), Jonathan Loyd (KY), Jonathan Runquist (WI), Jordan Stiles (KY), Joseph Webster, Jr. (MI), Joshua Ostby (WI), Juan C. Jimenez (VA), Justin Daniels (CO), Justin Witten (NJ), Kaity March (NJ), Karen Thom (WI), Karyn Wolf (NJ), Kella Smith (KY), Kelly Orr (KY), Kenneth Waldele (NJ), Kenshin Phan (WI), Kevin Baier (NJ), Kevin Bailey (NJ), Kevin Thompson (CO), Kevin Van Santen (IL), Kristine Wall (IL), Kurt S. Hudgins (MI), Kyle Davis (MI), Kyle Gilmore (UT), Kyle Hoffman (OH), Kyle Italis (WI), Kyle W. Larkin (WI), Lance Kukla (WI), Laura Caldwell (WI), Leon Ukwishaka (KY), Lindsey Schultz (NJ), Lisa Marie Barca-Rabeiro (NJ), Logan Deschamplain (WI), Loraine Holyfield (WI), Louis Levisky (NJ), Madeline Lee (NJ), Major Suttles (WI), Mark Kosloski (WI), Mark Suter (KY), Martin Blocher (WI), Martin Mejia Gonzalez (GA), Mathew Chase Cline (KY), Matt McClung (OH), Matt Sisk (OH), Matthew Dutra (NY), Matthew R Sedia (KY), Matthew Wirt (NJ), Michael Green (WI), Michael Heller (NJ), Michael Rios (UT), Michelle Brenner (KY), Mitchell Wilson (KY), Neil Plohr (MI), Nicholas Meeks (WI), Nicole Hann (NJ), Omar Acevedo (NJ), Otis Hannigan (IL), Patricia Fera (WI), Patrick Mireles (WI), Paul Patelis (GA), Philip Coache (NJ), Philip McDonnell (TN), Portia Fulton (OH), Rachel Charette (NJ), Raymond McLaughlin (WI), Raymond Ortiz (NJ), Richard Hand (NJ), Rick Braun (WI), Rick Martin (MI), Rob Carpenter (KY), Robert Bosch (MI), Robert Moya (MI), Robert Thomas (IN), Robyn Roesing (NJ), Rocco Dimichino (NJ), Ruth Gilmore (WI), Ryan Adams (WI), Ryan Hanlon (CO), Ryan Petersen (UT), Samantha Elizzar (IL), Samuel Weiss (CO), Sarah Bonniwell (WI), Sarah E Chase (CO), Scott Jacka (WI), Scott Waldenmyer (CO), Sean C Harris (CO), Sharon Koehler (NJ), Shawn E Veith (CO), Shawn Federer (OH), Shawn Martinez (CO), Stacey Dotson (OH), Stacey Hollon (KY), Stephanie Leenstra (NJ), Stephanie Whalen (WI), Stephen Short (OH), Steven A Rose (OH), Susan Hill (OH), Tara Hubbard (KY), Tevin Ingram (NJ), Theodore Alberta (NJ), Thomas Bendak (IL), Thomas Krone (IL), Thomas Pennachino (NJ), Timothy Ryan Godar (IL), Timothy Sandberg (UT), Tom Koch (CO), Valerie Korczukowski (NJ), William Allen (WI), William Desilets (WI), William Hoffman (OH), William Nicholas (NJ), Yvonne Lewis (CO), Zachery Sipes (KY)

NOVEMBER: Aaron Friedrich (IN), Abigail Johnson (TX), Alexandra Cochran (NJ), Brandon P Lussier (ME), Dana Parkinson (KY), David Christopher (OH), James L Parsons (OK), Krzysztof Kaczor (IL), kyle Ramaeker (IA), Lila Beckley (TX), Nara Scott (MI), Nathan Wendl (CO), Nicholas Jarrett (SC), Robert Norgart (MI), Ronald Melchior (MD), Tonya Keen (TN)

DECEMBER: Brian Walker (MI), Heather McKeever Porreca (NJ), Johna Boulafentis (ID), Michael Nicosia (NJ), Rafael Colon Jr. (CT), Stephen Sycuro (NE)

Become a member today!

Notice: 2023 AARST Board Election

The AARST election process will begin with the Nominating Committee's April call for nominations to be submitted in June. The election will be conducted during October. The results will be announced at the Annual Meeting October 31 in Nashville. Positions open for election are National Elected Directors (five), President-Elect, Vice-President, Secretary and Treasurer. Further details to be announced.

- George Schambach, Chair, Nominating Committee nominations@aarst.org

Chapter Corner

AARST Chapters provide an excellent source of opportunities to meet other professionals, attend CE events, and work together to advance changes in state legislation. [Find your chapter.](#)

Chapter Council

The Association's Chapter Council, which consists of Chapter Presidents, was formed two years ago by the AARST Board to advance the growth, development, and sustainability of chapters. It provides Chapter leaders opportunities to expand their ability to provide local resources and services to AARST members. Additionally, under the guidance of the Council, staff and association resources are being provided to the chapters and their members. The Council provides a forum and direction for improving chapter services such as continuing education events and mentoring of professionals, as well as providing training for tomorrow's leaders and advocates for radon risk reduction policies. Chapter Council representatives are appointed to serve on key AARST Board Committees, including the Ethics, Nominations and Audit committees.

The Chapter Council, which has been meeting monthly, has recently elected new officers for 2023:

Chair: Shad Evans (Ohio)

Vice Chair: Jim Emanuels (Illinois)

New AARST Chapters Forming - IN TN VA

AARST is grateful to members who have stepped forward to start new chapters. If you are an AARST member, or considering joining AARST, live in one of these states, and want to get involved, please reach out to the leader designated below.

Indiana: [Dawn Coffee](#)

Virginia: [John Davis](#)

Tennessee: [Phil McDonnell](#)

If you live in another state and want to [form a chapter](#), [reach out today](#).

AARST Chapters

Connect with your local AARST Chapter and President!

Network, learn, and advocate in your state/region with other radon professionals.

Heartland (MO, IA, NE, KS) – Jim Medley

Kentucky – Kyle Hoylman

Maryland – Daisy Rezende

Midwest (IL, IN, WI, MI) – Jim Emanuels

Minnesota

New England – Ed Beauregard

New Jersey – Joe Ganguzza

New York – George Schambach

Ohio – Shad Evans

Pennsylvania – Nathaniel L. Burden, Jr.

Rocky Mountain (AZ, CO, NM, UT) – Bryan Coy

Southeast (GA, TN, AL, SC)

IN MEMORIAM

The radon industry mourns the loss of several individuals who were both leaders and friends and celebrates their many contributions to the mission of saving lives.



JAY BAUDER

Bauder Basement Systems: AARST Board



DR. WILLIAM FIELD

University of Iowa and Columbia University: radon risk research including the Iowa Radon Lung Cancer Study; NIOSH Advisory Board on Radiation and Worker Health; EPA Science Advisory Board radiation committee; World Health Organization



WILLIAM "BILL" ROUNDS

formerly of Radonova: AARST Chapters, AARST Foundation, CARST



KURT SALOMON

Abodee Radon: Standards Committees



SUSIE SHIMEK

National expert leader in educating the public and encouraging radon testing



STEVE TUCKER

Cascade Radon: AARST Board, Standards Committees, Northwest Radon Coalition



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\$20 dollar delivery fee for all orders through your Lowe's LAR/LCA account.

Pro Deck – access to Lowe's Value Savings Programs (VSP), which provides quotes on orders \$1,500.00 or more.

Locations – LAR/LCA and VSP programs can be used at any of our over 1,700 stores nationwide.

Online:

5-10% tier discount on all orders placed on our Lowe's For Pros platform at www.lowes.com.

Note: Tier discount program can be used with any registered tender (including non-Lowe's LAR/LCA accounts).

Enjoy \$20 dollar delivery fees for all Lowe's For Pros orders.

Ability to select either "in-store" or "delivery" options.

You can select the store you want to shop at online.

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