

Kansas Radon Program Newsletter

Serving individuals certified in radon measurement, mitigation and laboratory services in Kansas.



Kansas Radon Program

January 2014

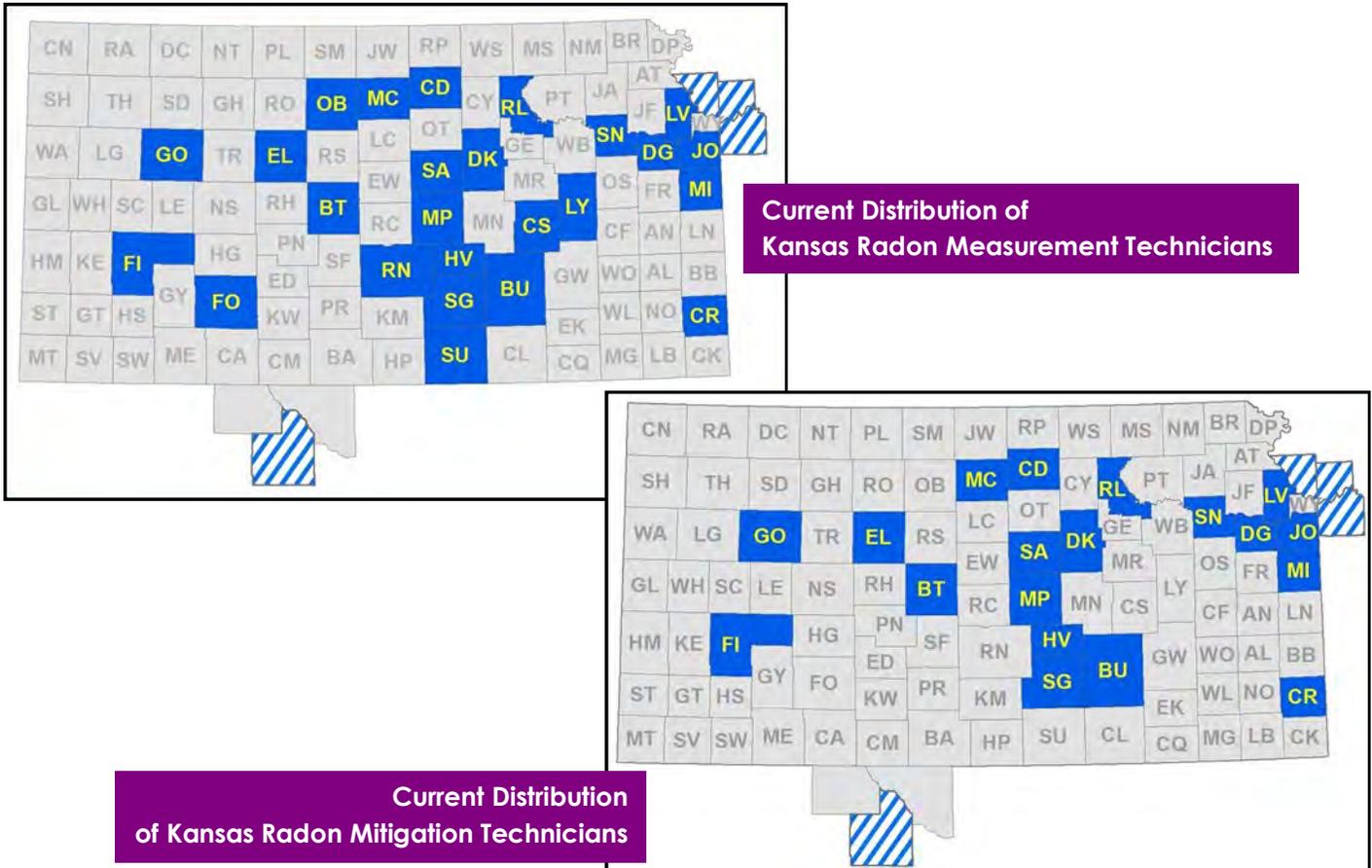
Sharing information of value with all participants. We plan periodic issues, and we welcome your suggestions, questions and requests in order to meet your needs and help us all provide quality radon risk-reduction services to the people of Kansas.

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Who's Working in Radon?

Kansas Certification Program By the Numbers



The Kansas Radon Certification Law went into effect on July 1, 2011.

At the end of the **first year** of certifications (June 30, 2012), the numbers were:

- ⇒ 176 Certified Radon Measurement Technicians
- ⇒ 57 Certified Radon Mitigation Technicians
- ⇒ 14 Certified Radon Laboratories

We also received radon data documenting **11,172 radon measurements** in Kansas performed during the **first year**.

As of June 30, 2013, the numbers were:

- ⇒ 220 Certified Radon Measurement Technicians
- ⇒ 72 Certified Radon Mitigation Technicians
- ⇒ 14 Certified Radon Laboratories

The **total number** of documented radon **measurements** in Kansas received during this time period was **16,251**.

During the time that the Kansas Radon Certification Law has been in effect, KDHE has been involved in several enforcement actions as a result of inspections or enforcement of non-certified businesses performing radon services. In addition, one radon laboratory, 16 radon measurement technicians, and seven radon mitigation certifications have had their certifications terminated for various reasons. These reasons include by choice of the technician, failure to renew their certification, and failure to submit radon data.



**January is
Kansas Radon
Action Month**



On December 20, 2013, Governor Sam Brownback declared January to be Kansas Radon Action Month.

The Kansas Radon Program has partnered with the Kansas Environmental Public Health Tracking Program (EPHT), the Kansas Healthy Homes Program, the Kansas Cancer Partnership, the Kansas Geological Survey, and other partner organizations to promote radon awareness and radon testing and mitigation in Kansas through the following activities:

On **December 20th** KDHE issued a press release about Kansas Radon Action Month activities. **Approximately 80 sites covering 67 counties in Kansas will be giving out free radon test kits at about 10-15 kits per site.** Each test kit recipient will fill out an information sheet to allow for follow-up tracking after the test and to ensure the test kit is used. This outreach project has multiple goals including increasing radon awareness, increasing radon test results in areas of the states which do not have much data, and increasing mitigations which lowers lung cancer risk. Radon fact sheets will be distributed with the test kits and a tool kit will be provided to each site to help them with their radon outreach efforts including sample quotes and a sample template news release and sample tweets and Facebook posts. No fees from the radon certification program were used to purchase the radon test kits - all funds came from programs outside the Kansas Radon Program.

The KDHE website homepage will run a banner about the project during January. A list sorted by county where citizens can find locations close to them where test kits are being distributed is on the KDHE website. KDHE Radon website and Kansas Radon Program website will link to the information.

The Kansas Geological Survey has developed maps to be used as visual aids to help generate interest and radon awareness. These maps document average radon levels in comparison with Kansas geology, and maps showing the distribution of radon data in Kansas, and comparison maps showing lung cancer instances in the state.

We have reached out to Kansas **residents who have been impacted by lung cancer in their life or their families** to assist us with **outreach through local interviews, newspaper articles and Letters to the Editor, and You-Tube videos.**

RADON ACTION MONTH

On January 15, KDHE hosted a Live Twitter chat to discuss radon topics.

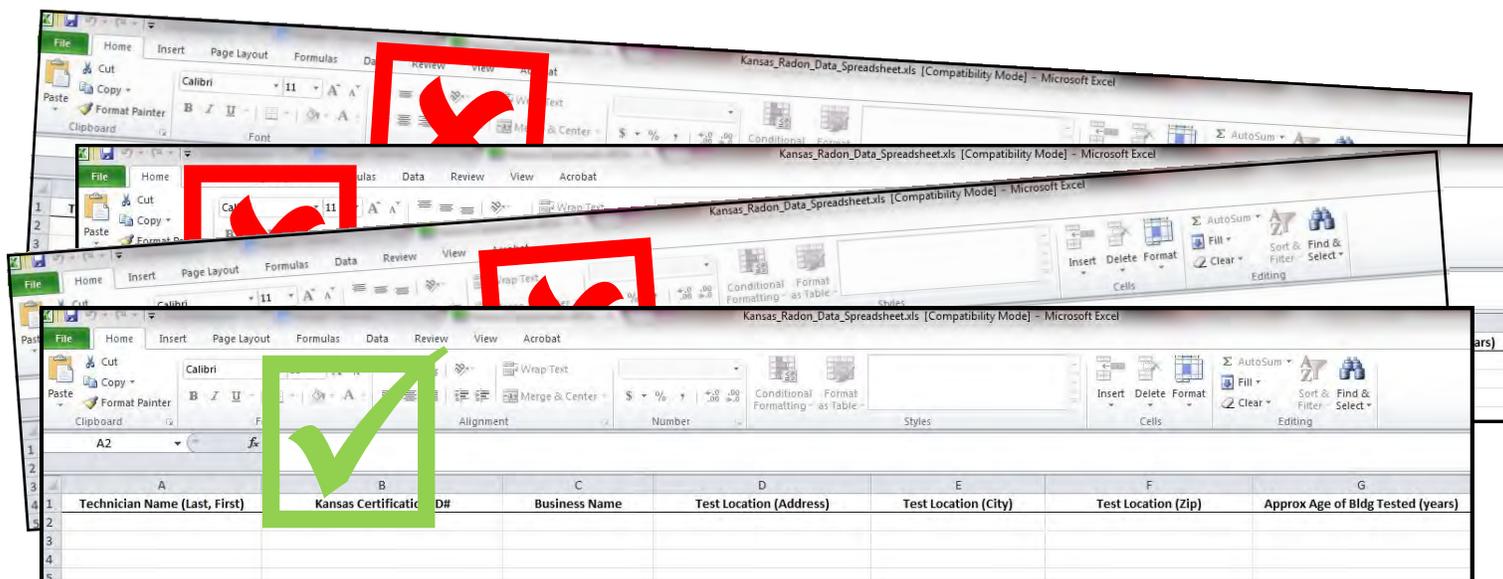
On Kansas Physicians Advocacy Day (January 22, 2014), **KDHE Secretary Dr. Robert Moser, M.D. sent a letter to physicians** across the state encouraging them to **include radon information in their communications with their patients.**

The Kansas Radon Program has contracted **with the Kansas Association of Broadcasters to air Public Service Announcements** about radon on television and radio across the state during Radon Action Month and through mid-March.

The Kansas Radon Program will be doing **outreach through county extension offices** to provide presentations and training across the state during January.

It is our hope that these outreach endeavors will increase the amount of radon testing and subsequent radon mitigation systems installed in Kansas, which benefits all of us and will help prevent future cases of lung cancer and save the lives of Kansas citizens.

How To: Kansas Radon Data Reporting



One of the more challenging aspects of the 2011 Kansas Radon Certification Law for all involved has been the requirement to share radon data. As with any database of 40,000+ entries collected over a period of 2.5 years, reconciling duplicates, mismatched and misspelled city/zip codes, incorrect addresses, and other errors can be time consuming and challenging.

How To: Kansas Radon Data Reporting

Kansas radon data can be a valuable tool to help all of us. KDHE is currently using the data which has been obtained up to this date to **create educational and outreach products for Kansas Radon Action Month in January.** Our goal is to use these **tools to increase awareness** and encourage citizens to test their homes and mitigate those homes which test high. We have partnered with the Kansas Geological Survey to develop maps showing average radon levels in comparison with Kansas geology, and maps showing the distribution of radon data in Kansas, and are also working on maps showing the average radon levels in Kansas and comparison maps showing lung cancer instances in the state.

KDHE recognizes that the submission of radon data is a challenging requirement of the Radon Certification Law. **There are some questions we have received more than once. KDHE has gathered the most frequently provided responses here:**

-  • If you have **no radon data** to report for a particular quarter, **please send an Email to radon@kdheks.gov and simply state that you have no data for that particular quarter.**
-  • If you have **already submitted radon data to KDHE**, please **do not submit the same data again.** Clear out your Excel spreadsheet and only **send us new data** not previously reported.
-  • **Use of the Excel spreadsheet is required**, and you should **not** make any **modifications or changes** to the spreadsheet or the fields. We have the spreadsheet set up so that the data can be directly imported into the database, and any modifications made to it will disrupt that process.
-  • You are **required by law to submit your radon data to KDHE on a quarterly basis** and this is a stipulation of your certification. **Enforcement actions** up to and including termination of your certification **are possible** if you do not submit your radon data.
-  • **Only submit radon data for your business**, and if you have multiple certified radon measurement technicians or radon mitigation technicians working for your business, **specify the technician for whom the radon data applies.**
-  • **Please verify that the city and zip code which you entered for each address are correct**, as this information is used to automatically populate the county field in the database. There have been numerous instances where the zip code and/or the city does not match the address, thus causing great amounts of time to be spent researching the address reported to us to find out if the city or zip code is incorrect so that the correct county can be added into the data.

This sheet can be printed to use as a reminder.

Impacts of Kansas Radon Program:

The KRP is helping spread the word on radon testing – where have you heard radon public service announcements during January?

Last year, in association with the Kansas Association of Broadcasters (KAB), during Kansas Radon Action Month (KRAM), the Kansas Radon Program (KRP) aired over 1500 radio and nearly 500 television based public service announcement (PSA's) encouraging Kansas residents to test their homes for radon gas.

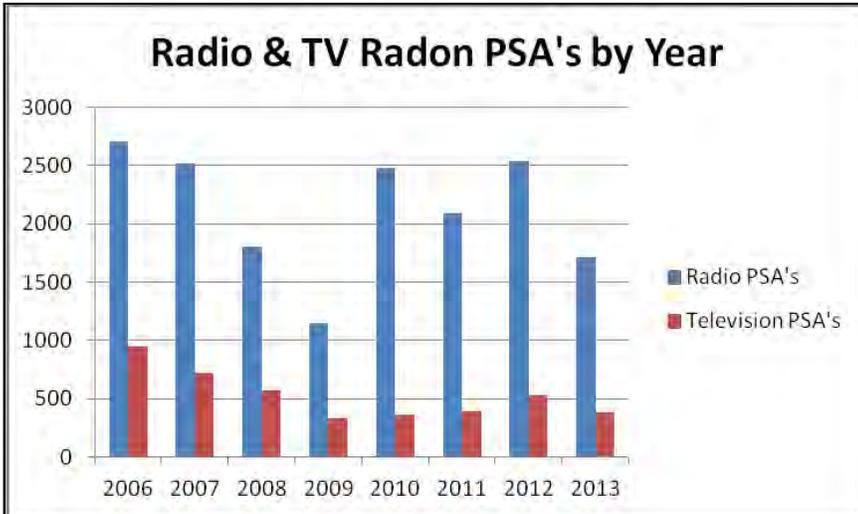


Figure 1 shows the historic totals for all PSAs during KRAM since 2006. This outreach activity has been highly successful state-wide; generating radon awareness as measured by 1) calls to the Kansas Radon Hotline, 2) visits to kansasradonprogram.org, and 3) radon test kits ordered and sold to the public by the county K-State Research and Extension (KSRE) offices. Listen for the PSAs this

Figure 1: Annual Radio and TV Radon PSA's by Year

January. Ask your local stations if they have the radon PSA in the rotation for January or write a letter to your local paper.

The KRP is answering questions from professionals and from the public – have you or someone you know ever called the Kansas Radon Hotline or visited www.kansasradonprogram.org?

The KRP provided direct technical support to **898 calls to the Kansas Radon Hotline (800-693-5343)**. The primary topic areas were related to homeowner testing and mitigation and real estate issues.

Figure 2 shows the annual call volume to the Hotline since 2004. In addition to the Kansas Radon Hotline, the Kansas Radon Program website (www.kansasradonprogram.org) has served 11,663 unique visitors in nearly 20,000 visits (see Figure 3). Stop by and check out our resources for contractors, our training opportunities, and general information for the public.

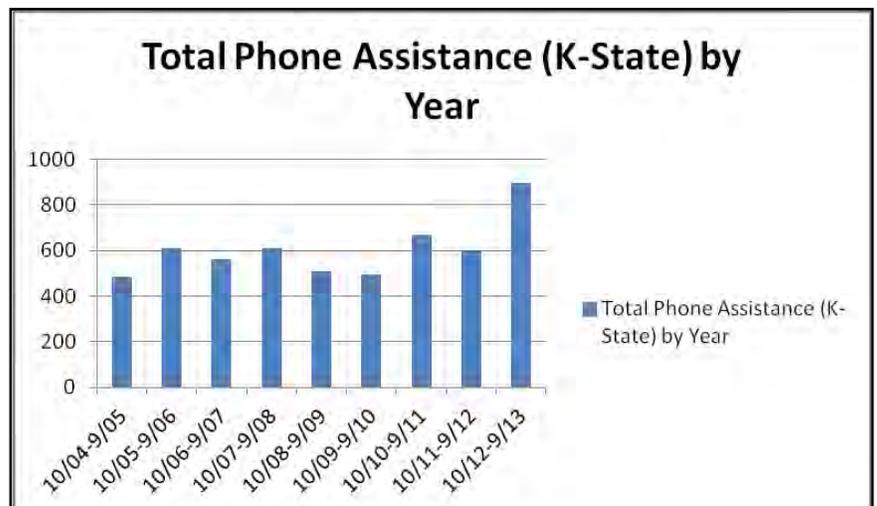


Figure 2: Phone Assistance (K-State) by Year

Impacts of Kansas Radon Program:

The KRP is helping make radon test kits available to homeowners in Kansas. Do you know if your local extension office carries radon test kits?

A record number of 3,005 radon test kits were requested by and distributed to Kansas State Research & Extension (KSRE) county and district offices (see Figure 4 below). This total is consistent with the average number of kits distributed annually through KSRE. However, the total number of radon measurements reported in the years following the July 2011 state radon certification law reflects the required reporting of radon measurements performed by those KDHE-certified radon professionals as well as the kits sold through the Extension offices. **Approximately 1/4 to 1/3 of radon tests performed in Kansas are by homeowners using test kits from their local KSRE offices, with the remaining 3/4 to 2/3 of radon tests being conducted by the professional certified radon industry.** Additionally, approximately 1/3 of all reported radon tests in Kansas are at or above the radon action level of 4.0 picoCuries of radon per liter of air (pCi/L). Have you tested your own home lately?

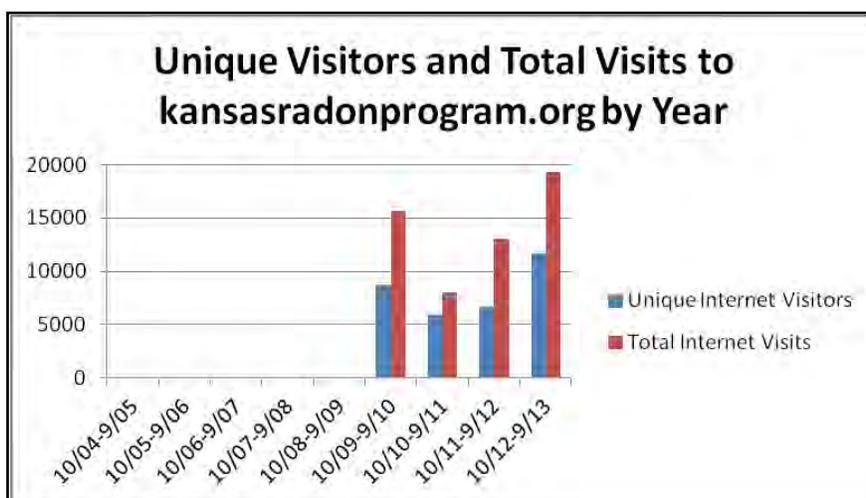


Figure 3: Unique Visitors and Total Visits to kansasradonprogram.org by Year

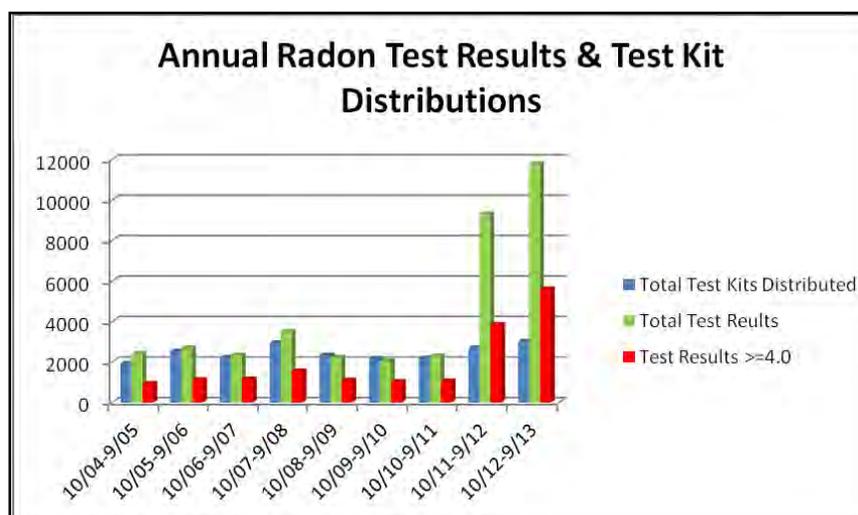


Figure 4: Total Radon Measurements and Radon Test Kits Distributed by Year

Impacts of Kansas Radon Program:

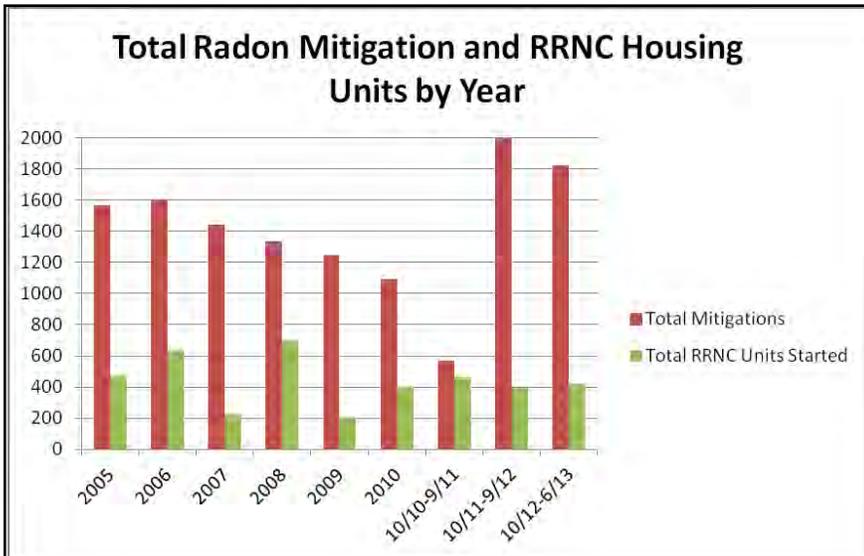


Figure 5: Total Radon Mitigation System Installations and RRNC Housing Unit Starts by Year

The KRP supports efforts to enact Radon Resistant New Construction requirements. Do you live or work in an area with RRNC regulation?

Figure 5 shows annual reported radon mitigation system installations and the annual housing starts in Kansas which included passive radon reduction systems (houses built using radon-resistant new construction (RRNC) techniques). The total reported number of homes built radon-resistant is based on the housing start numbers for those communities which require by code passive radon reduction systems in new single- and two-family homes: Manhattan, Topeka,

Lawrence, and Salina. Radon mitigation system installations have been increasing in the last two years across the state. Have you installed more mitigation systems recently? Do you encourage radon resistant new construction and passive radon system installation in your community?

Questions can be directed to:

Kansas Radon Program: 133 Ward Hall, Manhattan, KS 66506

Bruce Snead (bsnead@ksu.edu), Brian Hanson (bhanson@ksu.edu), Kristina Snyder (kesnyder@ksu.edu)

www.kansasradonprogram.org

Kansas Radon Hotline: (800) 693-5343

Upcoming Training:

(more info on all of these at www.kansasradonprogram.org)

January 27— February 1, 2014: Combined Radon Measurement and Mitigation Course

Location: Leavenworth, KS

Cost: \$775 before Jan 15, \$825 after Jan 15

Register: Online at <https://outreach.ksu.edu/etrakWebApp/Registration.aspx?MeetingCode=605097AE>

February 7, 2014: Radon Continuing Education Courses for Nebraska Radon Professionals

Location: Lincoln, NE

Courses: 6 CE Credits available - FREE

Register: Grace Anderson, Nebraska Radon Program
Phone: 402-471-1005 or Email: grace.anderson@nebraska.gov

March 3 & 4, 2014: EPA Region 7 Radon Stakeholders Meeting

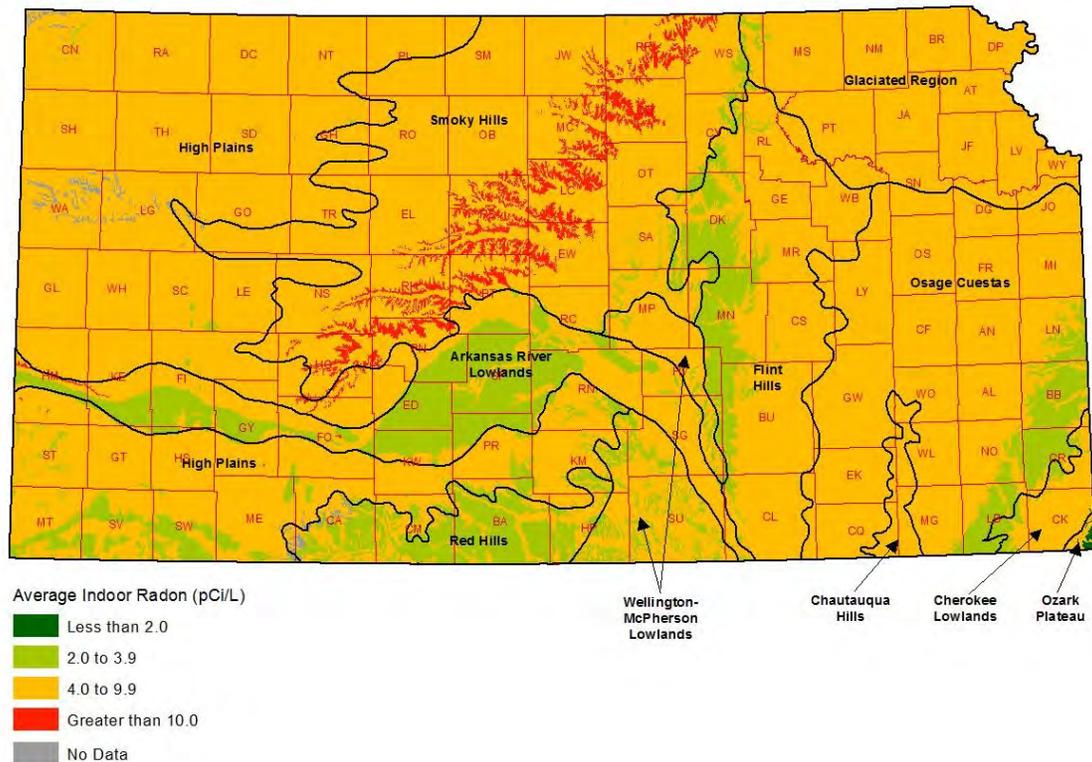
Location: Des Moines, IA

Courses: 8 hours Multi-Family Meas & Mit CE March 3 — \$175
4 hours CE March 4 — FREE

Register: March 3 — Heartland Chapter AARST—registration info at www.kansasradonprogram.org
March 4 — Bob Dye, EPA Region 7, Dye.Robert@epa.gov

SUBMITTED BY : KS GEOLOGICAL SURVEY

Average Indoor Radon Measurements with Respect to the Surficial Geology of Kansas



The map depicts the average indoor radon measurement using the KDHE radon data set with respect to the surficial geology in KGS Map M-118. The number of samples in the different geologic formations may not be sufficient to statistically characterize the radon levels, but they do suggest trends.

Red areas in the Smoky Hills correspond to Cretaceous shales and chinks and are among rock types most likely to cause indoor radon problems. Orange areas throughout most of Kansas include other lithologic units that are expected to produce radon. Orange areas include lithologic units such as chinks, loess, certain types of fluvial sandstones, glacial deposits, clayey residual soils, and black shales. Light green areas in the Red Hills, High Plains, Arkansas River Lowlands, Wellington-McPherson Lowlands, Flint Hills, and Osage Cuestas correspond to dune sands and shale units expected to have relatively low radon potential.

The dark green area in the Ozark Plateau departs from the expected lithologic trend. Its average radon value is very low but it corresponds to karst-producing limestones which are among rock types most likely to cause indoor radon problems. Void spaces commonly found in karst terrain aid radon migration and seasonal accumulation of locally high radon values. The data set for this region is small and seasonal sampling variability and could bias low the mean radon value in the Ozark Plateau.

Exceptions to lithologic trends exist within the different Kansas physiographic regions and lithologic types. Radon values greater than 4 pCi/L are locally found everywhere, except the Ozark Plateau. The Ozark Plateau may be biased low for the reasons noted above. The Red Hills includes secondary cave formations within some of its evaporative mineral sequences where radon may locally accumulate or be transported over long distances. Dune sands in the High Plains and Arkansas River Lowlands are very permeable and may transmit elevated radon concentrations from underlying source rocks over long distances. The low radon potential area in the Cherokee Lowlands still has smaller rock units that may be local sources of high radon values.

Mitigation Dos and Don'ts

The Kansas Radon Program receives a large number of citizen calls asking for guidance or advice about radon mitigation systems. **One of the questions we receive most frequently pertains to the discharge pipe.**

The applicable standard for this issue comes from the EPA Radon Mitigation Standards, Section 14.2.8:

To prevent re-entrainment of radon, the point of discharge from vents of fan-powered soil depressurization and block wall depressurization systems shall meet all of the following requirements:

- *Be above the eave of the roof,*
- *Be ten feet or more above ground level*
- *Be ten feet or more from any window, door, or other opening into conditioned spaces of the structure that is less than two feet below the exhaust point, and*
- *Be ten feet or more from any opening into an adjacent building.*

The total required distance (ten feet) from the point of discharge to openings in the structure may be measured either directly between the two points or be the sum of measurements made around intervening obstacles. Whenever possible, the exhaust point should be positioned above the highest eave of the building and as close to the roof ridge line as possible.



In Kansas, our interpretation of this standard is that we require the discharge point to be above the eave of the roof on the wall of the house on which the exhaust pipe is mounted.

We have in **rare cases granted waivers** on this rule in certain instances when the house is two or more stories straight up with no windows on that wall. On these occasions it has been clear that the difficulty for a radon mitigation technician to get the pipe run up the house that high when there are no windows or other opportunities for radon re-entrainment on that side, taking into account the danger factor to the mitigator, outweigh the requirement to go above the eave. Those waivers are approved by KDHE on a case by case basis, and should be requested prior to installation of the

Mitigation Dos and Don'ts

radon mitigation system.

To request a discharge pipe height above the roof eave waiver BEFORE INSTALLATION: Submit via email to radon@kdheks.gov the following information:

- a photo of the full side of the house/wall showing ground and roof and supporting photos to enable evaluation of request.
- reason for waiver request - no re-entrainment potential/risk, or installation risk to mitigator, or other factor.
- name, certification ID number, address of installation and contact information for mitigator.

KDHE will review and reply as soon

