



NATIONAL RADON PROGRAM



US EPA Region 4 2009 Radon Grants & Planning Meeting Meeting Follow-up Materials

Atlanta, GA August 17-19, 2009

Sam Nunn Federal Building



NATIONAL RADON PROGRAM



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US EPA Region 4
2009 Radon Grants Planning Meeting
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NATIONAL RADON PROGRAM



2009 Radon Grants/Planning Meeting

Atlanta, Georgia – August 17-19, 2009

3rd Floor – Sam Nunn Federal Building

Agenda

Monday, August 17, 2009 - Afternoon	
12:30 pm	Sign-In
1:00 pm	Welcome, Introductions, Agenda Review
1:45 pm	Mapping Workgroup Session <ul style="list-style-type: none"> • Introduction of New Members • Update – Where we Are & Plans for Session • How Map of Radon Zones Was Developed • Potential move to GIS Mapping Conference Room – 14th Floor
2:45 – 3:00 pm	Break
3:00 – 5:00 pm	<ul style="list-style-type: none"> • Demonstration of Mapping Done to Date • Discussion of Issues <ul style="list-style-type: none"> Quality Assurance Comparison of County Zone Designations Evaluation of Methodology Planning of Next Steps • Wrap-up



NATIONAL RADON PROGRAM



2009 Radon Grants/Planning Meeting
Atlanta, Georgia – August 17-19, 2009
3rd Floor – Sam Nunn Federal Building
Agenda

Tuesday, August 18, 2009	
8:30 – 9:00 am	Welcome and Meeting Goals Remarks by HQ and Region 4
9:00 – 10 am	State Program Updates • • •
10:00 – 10:15 am	Break
10:15 am – 12:00 pm	Grants Management <ul style="list-style-type: none"> • Where are we with FY09 State Indoor Radon Grants (SIRG)? • Process for New 2-Year SIRG Awards • Overview of Grant Requirements • Quality Assurance and Program Income Issues • Allocations for Upcoming Grant Cycle
12:00 – 1:15 pm	Lunch – On Your Own!
1:15 – 2:30 pm	State Program Updates •



NATIONAL RADON PROGRAM



2009 Radon Grants/Planning Meeting

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Agenda

Tuesday, August 18, 2009	
1:15 – 2:30 pm	State Program Updates - continued <ul style="list-style-type: none"> • Florida • Alabama
2:30 – 3:15 pm	Resources and Tools <ul style="list-style-type: none"> • Radon Leaders Saving Lives Portal • Web 2.0 • Others
3:15 – 3:30 pm	State Program Update – South Carolina
3:30 – 3:45 pm	Break
3:45 – 4:00 pm	State Program Update –
4:00 – 5:00 pm	Initiation of Strategy Development Process <ul style="list-style-type: none"> • Process Defined • Issues/Ideas Identified • Group Breakout Sessions Assigned • Progress Summarized • Prep for Next Day's Continuation
5:00 pm	Adjournment for Day – Evening Night Out
Wednesday, August 19, 2009	
8:30 - 10:15 am	Strategy Development – Resume
10:15 - 10:30 am	Break
10:30 – 11:30 am	Strategy Development
11:30 – 12:00	Review of Action Items Wrap-Up
12:00 pm	Meeting Concludes

**US EPA Region 4
2009 Radon Grants & Planning Meeting
Requests & Offers**

Requests:

- North Carolina share the statute adoption approach paper for mitigation and testing certification.
- Robert Stephenson (GA, Southface) share Georgia RRNC training video with the attendee group and for posting to the RadonLeaders.org Resource Bank.
- The George Radon Program posts PDF versions of its brochures to the RadonLeaders.org Resource Bank.
- All programs visit the RadonLeaders.org Resource Bank and share their resources.
- EPA share its National Radon Action Month materials and resources earlier with the state programs.
- Attend the EPA Long-term Strategy development session, Sunday, September 20, 2009, 4:15-5:45PM CDT at the 19th National Radon Training Conference in St. Louis.
- EPA update its materials for the medial community on radon (www.epa.gov/radon/pubs/physic.html).
- Attendees share any available information on lung cancer costs.
 - EPA Cost of Illness Handbook: www.epa.gov/oppt/coi/.
- Centralize research on radon on RadonLeaders.org (<http://www.radonleaders.org/resources/research>).

Offers:

- The following attendees offered to form a workgroup to scope out the possibility of hosting a Region 4 Medical Forum on radon: Ginger Bennett (GA), Rebecca Chenhall (GA), Aimee Morrow (SC), Catherine Rosfjord (NC), Patsy Brooks (EPA), Henry Slack (EPA), and Jeremy Ames (EPA).
- Clark Eldredge (FL) offered to share the CRCPD SRR Committee paper on draft suggested state regulations.
 - This resource is available at: www.crcpd.org/SSRCRs/R_05-17-08.pdf.
- The Georgia Radon Program offered to share the raw files it used to develop its brochures for other states to recreate similar materials.
- The EPA Region 4 office will share programmatic conditions guidance for SIRG grants by September 2, 2009.
- The EPA Region 4 office will share its decision on how the SIRG grants schedule (18 vs. 24 months, or possible flexibility) with all grantees by September 18, 2009.
- Aimee Morrow (SC) offered to communicate with the Radon Stakeholder Dialogue (www.radonleaders.org/resources/radonstakeholdersdialogue) group on the need for NRSB and NEHA to hold certified mitigators and testers to higher standards.
- Kathy Glapa (TN) offered to share the dates of the upcoming Tennessee radon training program with the attendee group as soon as possible.
- Henry Slack will contact the attendee group in advance of the 19th National Radon Training Conference in St. Louis to arrange a Region 4 meet-up.

**EPA's Map of Radon Zones
NATIONAL SUMMARY
Issued September, 1993**

Synopsis of Portions

INTRODUCTION

Pertinent portions of the *National Summary* developed to present the EPA's Map of Radon Zones have been summarized, repeated, or paraphrased, and some statements included in quotes and/or bolded for emphasis. In some cases the tense was revised to aid in readability. This synopsis is to provide background information for EPA Region 4's Pilot Project to update the State Zone Maps of AL, FL, GA, KY, MS, NC, SC and TN. Opinions, pro or con, are not included. The goal is to help us better understand how the original maps were developed and to evaluate the ongoing emphasis of the various Zone designations in various applications, among others the funding formula for the State Indoor Radon Grants (SIRG) program. Numerous statements in the document indicate the general expectation at the time that the Map of Radon Zones would be periodically updated as more recent data was either collected or obtained.

OVERVIEW

Sections 307 and 309 of the 1988 Indoor Radon Abatement Act (IRAA) directed EPA to identify areas of the US that have the potential to produce elevated levels of radon. EPA's Map of Radon Zones was developed (with the US Geological Survey - USGS and the Association of American State Geologists - AASG) to fulfill that requirement. It identifies, on a county-by-county basis, areas of the U.S. that have the highest potential for elevated indoor radon levels (greater than 4 pCi/L).

The Map of Radon Zones was designed to assist in the targeting of radon program activities and resources, and to help building code officials determine areas of highest priority for adopting radon-resistant building practices. "The Map of Radon Zones should not be used to determine if individual homes in any given area need to be tested for radon. **EPA recommends that all homes be tested for radon, regardless of geographic location or the zone designation of the county in which they are located.**

The Summary provided background information on the development of the Map of Radon Zones, explained the purposes, the approach used for its development, data sources used, conclusions and confidence levels developed for prediction of radon potential, and the review process used before finalizing.

BACKGROUND (reproduced verbatim)

"Radon (Rn ²²²) is a colorless, odorless, radioactive gas. It comes from the natural decay of uranium that is found in nearly all soils. It typically moves through the

ground to the air above and into homes and other buildings through cracks and openings in the foundation. Any home, school or workplace may have a radon problem, regardless of whether it is new or old, well-sealed or drafty, or with or without a basement. Nearly one out of every 15 homes in the U.S. is estimated to have elevated annual average levels of indoor radon.

Radon first gained national attention in early 1984, when extremely high levels of indoor radon were found in areas of Pennsylvania, New Jersey, and New York, along the Reading Prong-physiographic province. EPA established a Radon Program in 1985 to assist States and homeowners in reducing their risk of lung cancer from indoor radon.

Since 1985, EPA and USGS have been working together to continually increase our understanding of radon sources and the migration dynamics that cause elevated indoor radon levels. Early efforts resulted in the 1987 map entitled "Areas with Potentially High Radon Levels." This map was based on limited geologic information only because few indoor radon measurements were available at the time. The development of EPA's Map of Radon Zones and its technical foundation, USGS' National Geologic Radon Province Map, has been based on additional information from six years of the State/EPA Residential Radon Surveys, independent State residential surveys, and continued expansion of geologic and geophysical information, particularly the data from the National Uranium Resource Evaluation project." (NURE data)

Purpose of the Map of Radon Zones

EPA's Map of Radon Zones assigns each of the 3141 counties in the US to one of three zones:

- Zone 1 counties have a predicted average indoor screening level > than 4 pCi/L
- Zone 2 counties have a predicted average screening level ≥ 2 pCi/L and ≤ 4 pCi/L
- Zone 3 counties have a predicted average screening level < 2 pCi/L.

The Zone designations were determined by assessing **five factors** known to be important indicators of radon potential: **indoor radon measurements, geology, aerial radioactivity, soil parameters, and foundation types.**

The predictions of average screening levels in each of the Zones is an expression of **radon potential** in the **lowest liveable area** of a structure. The map was **unable** to estimate **actual exposures** to radon. **EPA recommends methods for testing and fixing individual homes based on an estimate of actual exposure to radon.**

EPA believes that States and others can **achieve optimal risk reductions** by **targeting** resources and program activities to **high radon potential areas**. Emphasizing targeted approaches in such areas **addresses the greatest potential risks first.**

EPA also believes that the use of **passive radon control systems in the construction of new homes in Zone 1 counties**, and the **activation of those systems if necessitated by follow-up testing**, is a cost effective approach to achieving significant radon risk reduction.

Use of the Map of Radon Zones is established no regulatory requirements, is voluntary, and is not applicable to radon in water.

Development of the Map of Radon Zones

The technical foundation for the Map of Radon Zones is the USGS Geologic Radon Province Map, with 360 separate geologic provinces for the US identified. Each was then evaluated according to available data for each of the five factors mentioned above – indoor radon measurements, geology, aerial radioactivity, soil parameters, and foundation types. Some data was available for each factor in every geologic province. **The province boundaries do not coincide with political borders (county and state) but define areas of general radon potential. The five factors were assigned numerical values based on an assessment of their respective contribution to radon potential, and a confidence level assigned to each contributing variable.**

EPA subsequently developed the Map of Radon Zones by extrapolating from the province level to the county level so that all counties in the US were assigned to one of the three radon zones. Each county was assigned Zone 1, 2 or 3 based on its assessed radon potential. If the boundaries of a county fell in more than one geologic province, the county was assigned to a zone based on the radon potential of the province in which most of the area lies.

The extrapolation from the province level to the county level may mask significant “highs” and “lows” within specific counties. **Within-county variations in radon potential are not shown on the Map of Radon Zones. EPA recommended that users needing to address these variations in radon potential consult USGS’ Geologic Radon Province Map and the State chapters provided with the National Map document for more detailed information, as well as any locally available data.**

Map Validation

The Map of Radon Zones’ **county zone designations are not “statistically valid” predictions** due to the nature of the data available at the county level for the five factors considered. In order to validate the map in light of this lack of statistical confidence, EPA conducted a number of analyses. This served to help identify the best situations in which to apply the map, and its limitations.

1. County zone designations were compared to indoor radon measurements from the States/EPA Residential Radon Surveys (SRRS). **Screening averages** for counties with at least 100 measurements were compared to the counties’ predicted radon potential as indicated by the Map of Radon Zones. **EPA found that 72% of the county screening**

averages were correctly reflected by the appropriate zone designations on the Map. In all other cases, they only differed by 1 zone.

2. Another analysis used the **annual average** data from the National Residential Radon Survey (NRRS). That survey indicated that ~ 6 million homes in the US have annual averages ≥ 4 pCi/L. By cross checking the county location of the ~ 5,700 homes which participated in the survey, their radon measurements, and the zone designations of the counties, EPA found that **~ 3.8 million of the 5.4 million homes with radon levels ≥ 4 pCi/L would be found in counties designated as Zone 1.** A random sampling of an equal number of counties would have only found ~ 1.8 million homes ≥ 4 pCi/L. In other words, **this analysis indicated that the map approach is three times more efficient at identifying high radon areas than random selection of zone designations.**

Together, these analyses show that the approach EPA used to develop the Map of Radon Zones is a reasonable one. Confidence was enhanced by results of the extensive State review process as the Map generally agreed with the States' knowledge of and experience in their own jurisdictions. **Two important points resulted: (1) elevated levels will be found in Zones 2 and 3; (2) there will be significant numbers of homes with lower indoor radon levels in all of the Zones.** For this reasons, **users of the Map of Radon Zones need to supplement the Map with locally available data whenever possible.** It was also noted that accurately defining the boundaries of the "hot spots" on this scale of map was not possible at the time, and that unknown "hot spots" do exist.

The Map of Radon Zones was intended to be a starting point for characterizing radon potential because the state of knowledge is always growing. This effort represented the best data available at the time, and EPA noted that it would continue to study various parameters in order to better characterize the presence of radon in US homes, especially in high risk areas. **These efforts will eventually assist EPA in refining and revising the conclusions of the Map of Radon Zones. The map is most appropriately used as a targeting tool.** To close out the section, the following was included – "the Agency encourages all residents to test their homes for radon, regardless of geographic location or the zone designation of the county in which they live. Similarly, the Map of Radon Zones should not be used in lieu of testing during real estate transactions."

Review Process

The Map of Radon Zones underwent extensive review within EPA and outside the Agency. AASG individual State geologists reviewed their State-specific information, the USGS Geologic Radon Province Map, and other materials for their geologic content and consistency. State radon offices were asked to comment on their respective States' radon potential evaluations and to evaluate the data used to assign their counties to specific zones. In a few cases States requested changes to county zone designations, and upon review of data they submitted, EPA did make some changes in zone designations. These didn't strictly follow the methodology defined for the Map development, and were discussed in respective State booklets.

EPA encouraged the States and counties to conduct further research and data collection efforts to refine the Map of Radon Zones, and asked to be kept informed of any changes made to the maps. Updates and revisions were to be handled in a similar fashion to the way the map was developed. States should notify EPA of any proposed changes by forwarding the changes through the Regional EPA offices. Depending on the amount of new information presented, EPA would consider updating the map periodically. The State radon programs should initiate proper notification of the appropriate State officials when the Map of Radon Zones is released and when revisions or updates are made by the State or EPA.

Notes From:

**Part II - Map of Radon Zones project:
U.S. EPA, 1992a**

**THE USGS/EPA RADON POTENTIAL ASSESSMENTS: AN INTRODUCTION
Linda Gundersen & Randall Schumann, USGS, Sharon White, EPA**

How the Zone Maps were Developed

Indoor Radon Data

Two major sources used:

- State/EPA Residential Radon Surveys – 42 states between 1986 and 1992
Designed to be statistically significant at state level
Collected screening measurements using 2-7 day charcoal canisters placed in lowest livable area of home
Target population was owner-occupied single family, detached housing units w/some duplexes, townhouses or condos if had contact with ground surface
Participants selected randomly from telephone-directory listings
Approx 60,000 homes tested
- Independent state or utility company surveys (FL in Region 4)

Only counties with five or more measurements included in state radon maps – though all counties with nonzero numbers are listed in data tables for each state chapter.

Total data = 100,000 homes nationwide.

Radon Index - Scoring System for Determining Zone Designations

Radon Index (RI) Matrix – five factors – indoor radon data, geology, aerial radioactivity, soil parameters, and house foundation type – quantitatively ranked using a point value of 1, 2 or 3 for their respective contribution to radon potential in a given area. At least some data for the 5 factors was available for every geologic province.

Radon - Indoor radon was evaluated using unweighted arithmetic means of the data for each geologic area to be assessed. Other indoor radon data sets (vendor, etc.) weren't considered in scoring the indoor radon factor of the RI if they weren't randomly sampled or couldn't be statistically combined with the primary indoor radon data sets.

If average screening radon level was <2 pCi/L, the radon factor was assigned 1 point, between 2 and 4 pCi/L was scored 2 points, and > 4 pCi/L was assigned 3 RI points.

Aerial radioactivity data – From the equivalent uranium (eU) map of the US developed as part of the National Uranium Resource Evaluation (NURE) program conducted by the Department of Energy during the 1970-80's. It included aerial gamma surveys from

flyovers done at an altitude of 400 feet with flightline spacing between 3 and 6 miles. Less than 10% of the ground surface of the US was actually measured. The data were used to quantify the radioactivity of rocks and soils, and to provide an estimate of radon source strength over a region.

Equivalent uranium is expressed in units of parts per million (ppm). 3 ppm eU corresponds to about 1 picocurie per gram (pCi/g) of radium-226. The data indicated the gamma radioactivity from approximately the upper 30 cm of rock and soil, expressed as ppm eU. One point was assigned based on whether the overall eU fell below 1.5 ppm, 2 points for between 1.5 and 2.5 ppm, and 3 points for greater than 2.5 ppm.

Geology – The major geologic/physiographic provinces were mapped and described in the state chapter booklets. In the matrix, “positive” and “negative” refer to the presence or absence and distribution of rock types known to have high uranium contents. “Variable” was used to describe either variable geology in the region or areas where rock types are known or suspected to generate elevated radon in some areas but not others. Negative, variable and positive geology were assigned 1, 2 and 3 points, respectively.

In cases where additional reinforcing or contradictory geologic evidence was available, Geologic Field Evidence (GFE) points were added to or subtracted from an area’s score. In some cases, geologic models and supporting field data reinforced an already strong score, in others they provided important contradictory data. An example is an area which had a low aerial radiometric signature, countered by field studies which indicated high radon potential found in deeper soil horizons than is typical.

Soil Permeability – Refers to several soil characteristics that influence radon concentrations and mobility – including soil type, grain size, structure, soil moisture, drainage, slope and permeability. US Soil Conservation Service data for water permeability were used, as they generally correlate well with gas permeability of the soil except when the soil moisture content is very high. This would include areas with consistently high water tables (thus low permeability). In the matrix, “low” refers to permeabilities less than about 0.6 in/hr, and “high” to those greater than 0.6 in/hr. Low, moderate and high permeability were assigned 1, 2 and 3 points, respectively.

Architecture Type – Refers to whether homes in the area have mostly basements (3 points), mostly slab-on-grade construction (1 point), or a mixture of the two. Split-level and crawl space homes were considered mixed category (2 points).

The overall RI for an area was calculated by adding the individual RI scores for the 5 factors, plus or minus GFE points, if any. The total RI for an area falls in one of three categories – low, moderate or variable, or high. The point ranges for the three categories were determined by examining the possible combinations of points for the 5 factors and setting rules such that a majority (3 of 5 factors) would determine the final score for the low and high categories, with allowances for possible deviation from an ideal score by the other two factors. The moderate/variable category lies between these two ranges.

EPA's Map of Radon Zones

Technical Foundation = USGS Geologic Radon Province Map – 360 geologic provinces identified & evaluated according to available data for each of five factors:

- indoor radon measurements
 - geology
 - aerial radioactivity
 - soil parameters
 - foundation types
- Each factor assigned a numerical value based on contribution to radon potential, and confidence level assigned to each contributing variable.

Purpose = Predict average screening levels in each county. Is expression of **radon potential in lowest liveable area** of structure – **not actual exposures** to radon. EPA's recommendations for testing and fixing individual homes are based on an **estimate of actual exposure to radon** (from new testing).

Result = Extrapolation made from province level to county level & each county (3141) assigned to Zone 1, 2 or 3 based on assessed radon potential.

- Zone 1 counties have a **predicted** average indoor screening level > than 4 pCi/L
- Zone 2 counties have a **predicted** average screening level ≥ 2 pCi/L and ≤ 4 pCi/L
- Zone 3 counties have a **predicted** average screening level < 2 pCi/L.

Map Validation

* **County zone designations are not "statistically valid" predictions** due to nature of data available at the county level for the five factors.

- County zone designations were compared to indoor radon measurements from States/EPA Residential Radon Surveys (SRRS). Screening averages for counties with at least 100 measurements were compared to the counties' predicted radon potential as indicated by the Map of Radon Zones. **72%** of the county screening averages **were correctly reflected** by the appropriate **zone designations**. The others differed by 1 zone.
- Another analysis used the **annual average** data from the National Residential Radon Survey (NRRS). It found that 6 million homes in the US have **annual averages** ≥ 4 pCi/L. By cross-checking the county location of the ~5,700 homes from the survey, their radon measurements & the zone designations of the counties, EPA found that ~3.8 million of the 5.4 million homes with radon levels ≥ 4 pCi/L would be found in counties designated as Zone 1. A random sampling of an equal number of counties would only have identified only 1.8 million homes. This indicated that the map approach is three times more efficient at identifying high radon areas as random selection of zone designations would be.

Findings

- Elevated levels will be found in Zones 2 and 3
- Many homes with levels ≤ 4 pCi/L will be found in all Zones
- **Users should supplement the Map with locally available data whenever possible**
- EPA will continue to study the various parameters to eventually assist them in **refining and revising the conclusions of the Map of Radon Zones.**

EPA encouraged the States and counties to conduct further research and data collection efforts to refine the Map of Radon Zones, and asked to be kept informed of any changes made to the maps. Updates and revisions were to be handled in a similar fashion to the way the map was developed. States should notify EPA of any proposed changes by forwarding the changes through the Regional EPA offices. Depending on the amount of new information presented, EPA would consider updating the map periodically.

TABLE 3. RI and CI scores for geologic radon potential areas of Georgia.

FACTOR	(3)Georgiabama Thrust Stack North of Allatoona Fault		(4)Georgiabama Thrust Stack South of Alatoona Fault		(5)Little River Thrust Stack	
	RI	CI	RI	CI	RI	CI
INDOOR RADON	2	2	2	2	1	2
RADIOACTIVITY	2	2	3	2	2	2
GEOLOGY	2	2	2	2	2	2
SOIL PERM.	2	2	1	3	1	3
ARCHITECTURE	1	-	1	-	1	-
GFE POINTS	0	-	0	-	0	-
TOTAL	9	8	9	9	7	9
	Mod	Mod	Mod	Mod	Low	Mod

FACTOR	(2)Rome-Kingston Thrust Stack		(1)Appalachian Plateau		(6) Coastal Plain Cretaceous/Tertiary	
	RI	CI	RI	CI	RI	CI
INDOOR RADON	2	2	1	2	1	2
RADIOACTIVITY	2	2	2	2	2	2
GEOLOGY	2	2	2	2	2	2
SOIL PERM.	1	3	2	2	2	3
ARCHITECTURE	1	-	1	-	1	-
GFE POINTS	0	-	0	-	0	-
TOTAL	8	9	8	8	8	9
	Low	Mod	Low	Mod	Low	Mod

FACTOR	(7) Coastal Plain Quaternary/Pleistocene-Pliocene gravels	
	RI	CI
INDOOR RADON	1	2
RADIOACTIVITY	1	2
GEOLOGY	2	2
SOIL PERM.	2	3
ARCHITECTURE	1	-
GFE POINTS	0	-
TOTAL	7	9
	Low	Mod

RADON INDEX SCORING:

Radon potential category	Point range	Probable screening indoor radon average for area
LOW	3-8 points	< 2 pCi/L
MODERATE/VARIABLE	9-11 points	2 - 4 pCi/L
HIGH	> 11 points	> 4 pCi/L

Possible range of points = 3 to 17

CONFIDENCE INDEX SCORING:

LOW CONFIDENCE	4 - 6 points
MODERATE CONFIDENCE	7 - 9 points
HIGH CONFIDENCE	10 - 12 points

Possible range of points = 4 to 12

**REFERENCES CITED IN THIS REPORT
AND GENERAL REFERENCES RELEVANT TO RADON IN GEORGIA**

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**REGION 4 RADON RESULTS
EPA/STATE RESIDENTIAL RADON SURVEYS*
& FLORIDA STATEWIDE RADON STUDY**

Draft Table - 8/09

State	Dates	# of Homes Measured	Mean	Max	% > 4 pCi/L**	# of Zone 1 Cos/Total Counties	Zone 1 Population 2004 ***	2004 Statewide Population
Alabama	1986-87	1,180	1.7 pCi/L	180 pCi/L	6.9	13/66	915,870	4,530,182
Florida****	1986-87	3,050				0/67	-0-	17,397,161
		3,106						
Georgia	1989	1,534	1.7 pCi/L	18.7 pCi/L	6.5	4/214	2,844,962	8,829,383
Kentucky	1986-87	879	2.8 pCi/L	65.5 pCi/L	17.9	31/112	1,728,859	4,145,922
Mississippi	1990-91	960	0.9 pCi/L	22.8 pCi/L	2.3	-0-	-0-	2,902,966
N. Carolina	1989-90	1,288	Avg Not Available	100 pCi/L	Avg Not Available	8/96	527,514	8,407,248
S. Carolina	1990	1,089	1.1 pCi/L	80.7 pCi/L	3.7	1/46	401,174	4,147,152
Tennessee	1987-88	1,773	3.0 pCi/L	99.9 pCi/L	18.2	37/91	2,607,844	5,841,748
TOTALS						94/692	9,026,223	56,201,762

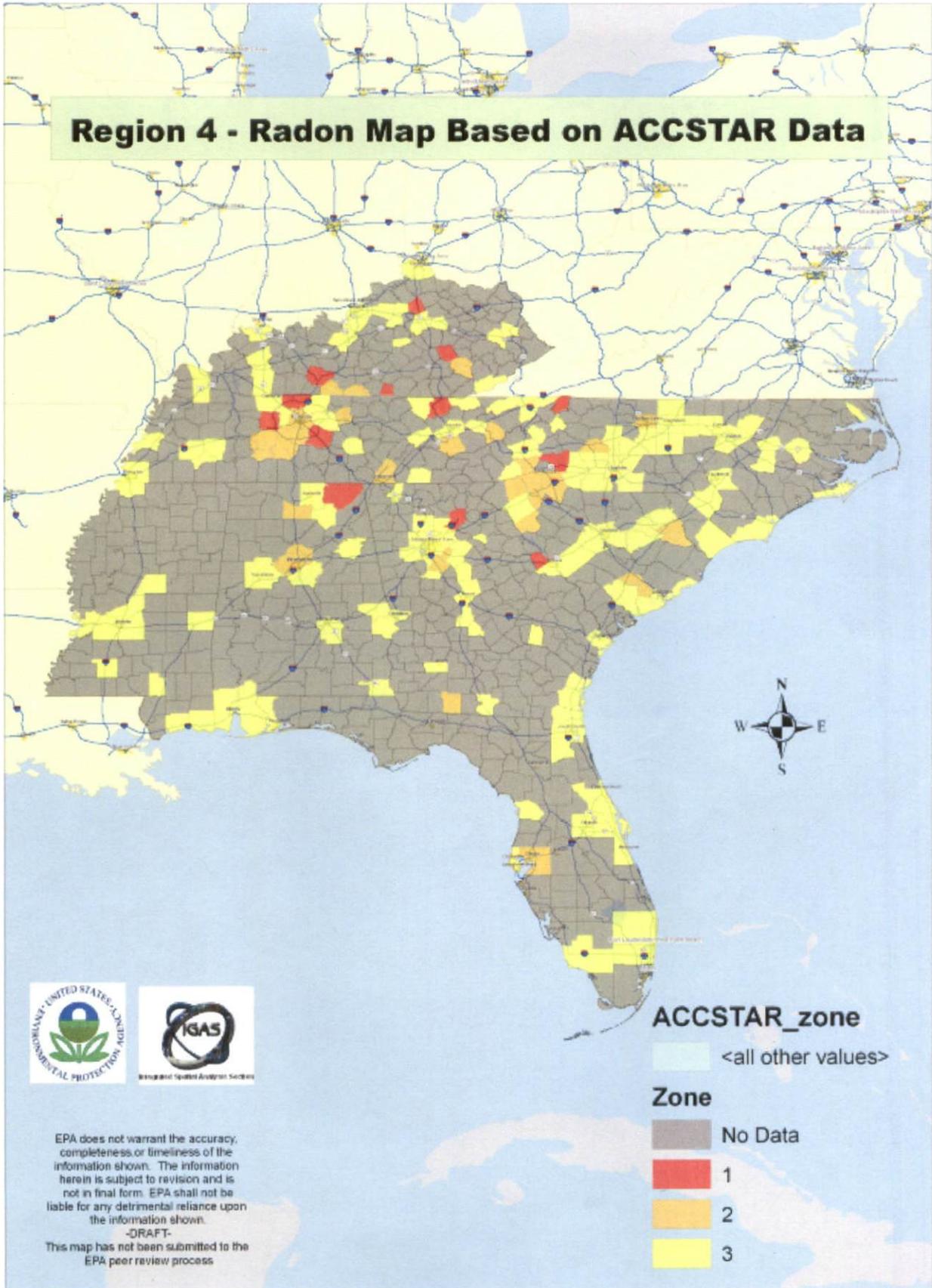
* 2-7 Day Charcoal Canisters from Lowest (Livable) Level of Home

** Data from counties w/5 or more measurements

*** U.S. Census Bureau July, 2004 Estimates

**** Florida Land-based Survey - average statewide results not located
Florida Population-based Survey

Region 4 - Radon Map Based on ACCSTAR Data



EPA does not warrant the accuracy, completeness, or timeliness of the information shown. The information herein is subject to revision and is not in final form. EPA shall not be liable for any detrimental reliance upon the information shown.

-DRAFT-

This map has not been submitted to the EPA peer review process

ACCSTAR_zone

<all other values>

Zone

No Data

1

2

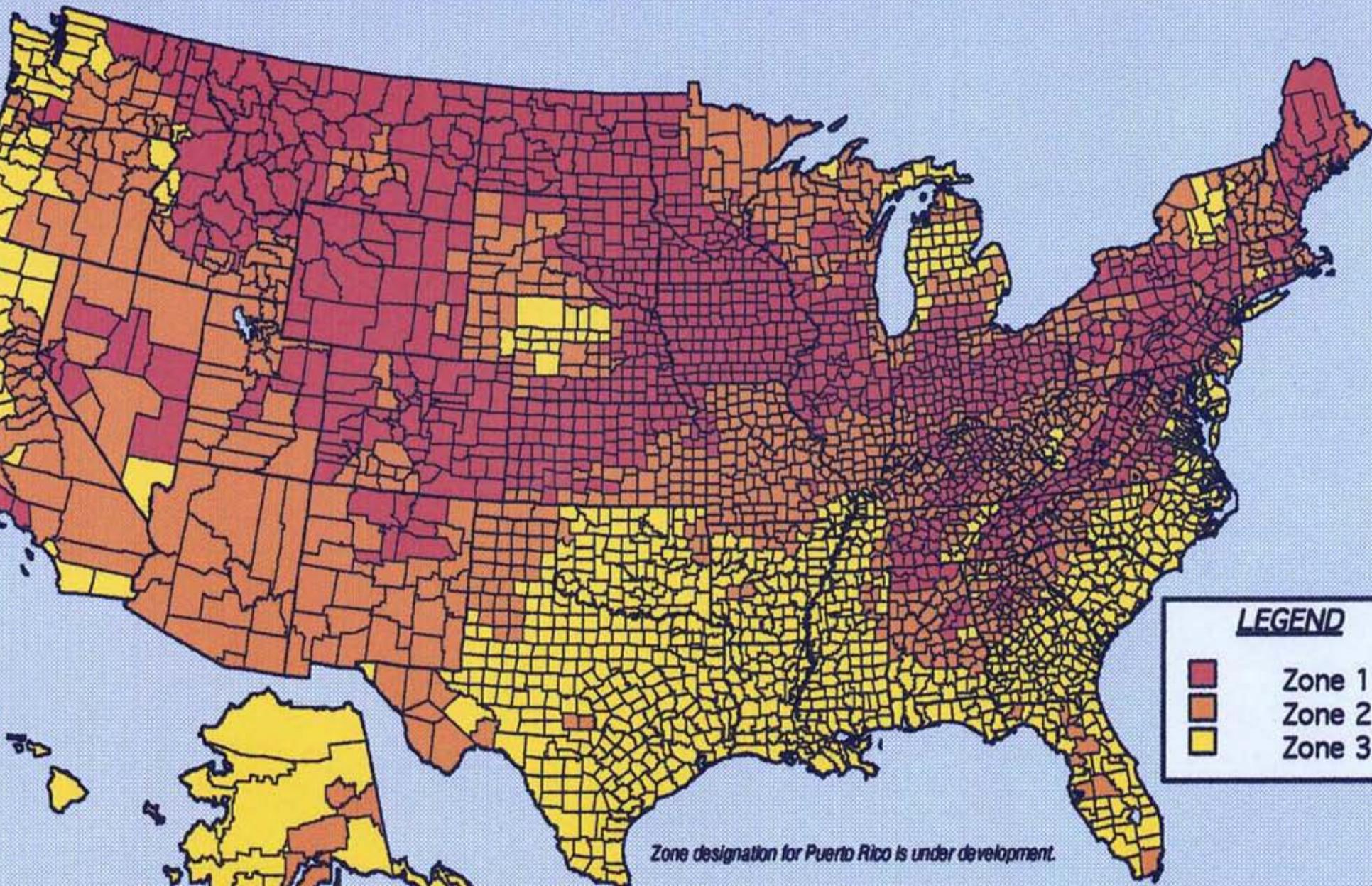
3



**EPA REGION 4
2009 INDOOR RADON
GRANTS/PLANNING
MEETING**

**August 17-19, 2009
Sam Nunn Federal Building
Atlanta, Georgia**

EPA Map of Radon Zones





**EPA REGION 4
2009 INDOOR RADON
GRANTS/PLANNING
MEETING**

**Introduction
Mapping Session**

Patsy Brooks
Brooks.patsy@epa.gov
404-562-9145

EPA's Map of Radon Zones

- **Required by 1988 Indoor Radon Abatement Act**
- **Goal – To assist in targeting of resources & in identifying areas of highest priority for promotion of radon-resistant new construction.**
- **Is radon “potential” map – not radon “risk” map!**
- **Identifies on county-by-county basis areas of US w/highest potential for elevated radon levels (greater than 4 pCi/L**



EPA's Map of Radon Zones

- **Two major sources:**

State/EPA Residential Radon Surveys – 42 states between 1986 and 1992

Independent state surveys – FL in R4

Statistically designed surveys, mostly owner-occupied single family houses

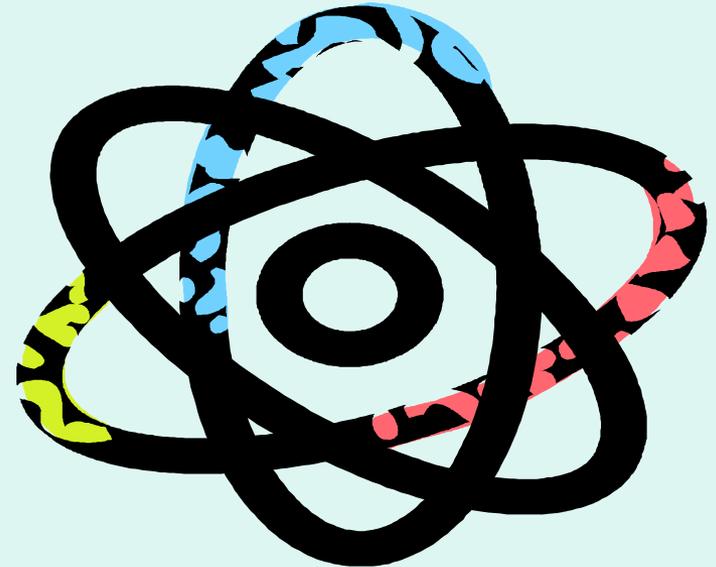
Approx 60,000 homes tested + 40,000 independent results = 100,000 nationwide

EPA's Map of Radon Zones

- Technical Foundation = USGS Geologic Radon Province Map w/360 separate geologic provinces for US identified
- Each evaluated according to 5 factors
- Extrapolation from province level to county level & each county assigned to 1 of 3 zones

EPA's Map of Radon Zones

- **Five Factors**
 - Indoor radon measurements
 - Geology
 - Aerial radioactivity
 - Soil parameters
 - Foundation types



EPA's Map of Radon Zones

Zones = Radon Potential in Lowest Liveable Area – Not Actual Exposure

Designations = predicted average indoor screening levels



Zone 1 = > than 4 pCi/L

Zone 2 = ≥ 2 pCi/L and ≤ 4 pCi/L

Zone 3 = < 2 pCi/L

EPA's Map of Radon Zones

Findings –



Elevated levels will be found in Zones 2 & 3

Many homes w/ ≤ 2 pCi/L in all Zones

Users should supplement Map w/locally available data whenever possible

All homes should be tested

EPA's Map of Radon Zones

Radon Index (RI) Matrix =

Scoring system for determining zone designations

Five factors given point values of 1, 2 or 3 based on contribution to radon potential in given areas

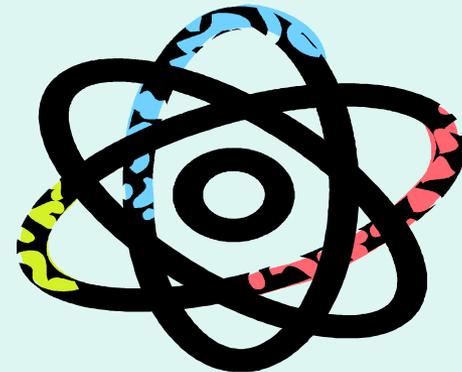
Indoor radon data

Geology

Aerial radioactivity

Soil parameters

Housing foundation type



EPA's Map of Radon Zones

Radon Index Matrix

Radon –

1 point = If average screening level < 2 pCi/L

2 points = levels between 2 and 4 pCi/L

3 points = > 4 pCi/L



EPA's Map of Radon Zones

Radon Index Matrix



Aerial radioactivity = equivalent Uranium (eU) in parts per million (ppm)

1 point = eU < 1.5 ppm

2 points = eU between 1.5 and 2.5 ppm

3 points = eU > 2.5 ppm

EPA's Map of Radon Zones

Radon Index Matrix



Geology = major geologic provinces

1 point = Negative for absence of rock types known to have high uranium content

2 points = Variable

3 points = Positive

Geologic Field Evidence (GFE) points added to or subtracted from area's score for additional reinforcing or contradictory evidence

EPA's Map of Radon Zones

Radon Index Matrix



Soil Permeability = used water permeability as surrogate – soil type, grain size, moisture content, drainage, slope

1 point = permeabilities < 0.6 inches/hour

2 points = moderate or combinations

3 points = permeabilities > 0.6 inches/hour

EPA's Map of Radon Zones

Radon Index Matrix



Architecture or foundation type:

1 point = Mostly slab-on-grade construction

2 points = Mixed (split-level & crawl space)

3 points = Mostly basements

EPA's Map of Radon Zones

Radon Index Matrix

RI calculated by adding individual RI scores for each of 5 factors plus or minus GFE pts

Total RI assigned to low, moderate/variable or high

Majority (3 of 5 factors) determined score for low and high categories – possible deviation allowed per other 2

Matrix for each R4 state available – scores only available at state level – not county

Issues in Reproducing Map

Original map based on statistically designed surveys,
statistically valid to state level

Input to Radon Index Matrix not available by county or
for all five factors

Vendor data was considered but not allowed

Current data from multiple laboratories

Test devices vary

No QA on homeowner placement

No enforcement on radon testers' QA programs



Need for Updated Map

Significant increase in quantity of data

Possibility that radon zones should be revised

Future EPA resources to be targeted to high risk areas – as determined by # of Zone 1's

Original map intended to be starting point – to be updated in future

New state maps used for outreach – even though recommendation is to test everywhere

Next Steps



Review GIS mapping done w/state & lab data

Compare Zone designations – determine which have changed since Map of Radon Zones

Discuss issues/resources required to update maps

Develop preliminary plan for follow-up



NATIONAL RADON PROGRAM



Using Social Media to Spread Radon Awareness

Social Networks

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Kent Quinnelly I might be a bit late posting this pic but when you are talking about going green it's never too late! <http://www.zoelifestyle.com/pinnacle>



Wed at 10:57pm · Comment · Like · Report

U.S. Environmental Protection Agency

08/11/2009: U.S. EPA's Fugitive Website Helps Bring California Criminals to Justice/ Environmental F

Source: yosemite.epa.gov
SAN FRANCISCO -- Robert Fred Smith, a fugitive since 2006, made his initial appearance this week before the District Court, Southern District of Calif...[Read More](#) ▾

Tue at 4:20pm · Comment · Like · Share

5 people like this.

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Darlene Colihan Boerlage If you are in the Chesapeake Bay Area, the EPA Administrator is having a town meeting tonight in Annapolis on cleanup of the Bay.

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RadonLeaders.org beta Hello, Jeremy Ames! [my profile] [log out]

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Radon Leaders Saving Lives



Doubling our results in the next five years*

 [»](#)

Jeremy Ames

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Upcoming Events

2009 AUG 17	Region 4 SIRG Grantee meeting
2009 AUG 29	BRC AARST Continuing Education
2009 SEP 13	9th International Conference of Healthy Buildings 2009 Syracuse NY
2009 SEP 18	Greater Capital Association of Realtors, Realtor Day Albany, NY- NYSDOH Radon Program

IN FOCUS

Follow-up: EPA Long-Term Strategy for Radon Discussion Webinar

AUGUST 11, 2009 • RADONLEADERS.ORG

On Tuesday, August 11, 2009 EPA hosted a discussion Webinar on the EPA Long-term Strategy (LTS) for radon. The Webinar included an overview of the current draft of the LTS document, and break-out discussions of strategies EPA might pursue under three possible program scenarios: (1) existing resources and authority; (2) increased resources and existing authority; and (3) increased resources and increased authority. The summary notes from the Webinar will be made available on RadonLeaders.org shortly. If you would like to review the current LTS draft, you can [download it from RadonLeaders.org](#). Please note, you must be logged in to RadonLeaders.org to download the LTS draft.

[more »](#)

LATEST BLOG POSTS

Three New Radon Laws in Illinois
[GLORIA LINNERTZ](#) ON AUGUST 14, 2009 - 1:33PM • 0 REPLIES

Thinking About Your Web Strategy: What is Search Engine Optimization?
[CLINTON](#) ON AUGUST 14, 2009 - 11:21AM • 0 REPLIES

Thinking About Your Web Strategy: Demystifying Web Analytics
[CLINTON](#) ON AUGUST 13, 2009 - 2:02PM • 0 REPLIES

Fort Collins, CO Study: Effectiveness of Passive Radon Reduction System in New Fort Collins Homes
[CHRYSKELLEY](#) ON AUGUST 13, 2009 - 1:55PM • 0 REPLIES

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LATEST FORUM TOPICS

Radon-related leadership change at EPA
[BILL LONG](#) ON AUGUST 10, 2009 -

www.radonleaders.org

RSS Feeds

Current Feed Content

REGISTER for Upcoming Webinar: Provide Feedback on EPA's Long-term Strategy on Radon

Posted: Thu, 06 Aug 2009 15:17:58 +0000

RadonLeaders.org

Please join us for a discussion on EPA's Long-Term Strategy for Radon. The National Radon Program is developing a long-term vision and strategy and *we want to hear from you*.

Register for a Webinar discussion on Tuesday, August 11, 2009, from 1-3 PM, EST.

The Webinar will include break-out discussions of strategies EPA might pursue under three possible program scenarios: (1) existing resources and authority; (2) increased resources and existing authority; and (3) increased resources and increased authority.

To participate, you must register in advance for **one of the three** Webinar break-out discussions. Please select one of the following discussion options:

- Participate in a Webinar discussion focused on EPA's Long-Term Strategy options assuming **Existing Resources, and Existing Authority** by registering at: <http://tiny.cc/OBLK0>



[Register Image.JPG](#)

BRC AARST Continuing Education

Posted: Tue, 04 Aug 2009 16:59:21 +0000

Start: 08/29/2009 - 8:00am

End: 08/29/2009 - 5:00pm

Location: Henderson County Chamber of Commerce, 204 Kanuga Road, Hendersonville, NC 28739

Web Strategy: 10 Tips on Writing for the Web

Posted: Tue, 04 Aug 2009 15:31:54 +0000



[RadonLeadersOrg_10 Tips on Writing for the Web.pdf](#)

On July 16, 2009, EPA hosted a Webinar titled, *Get Caught in the 'Net: Building Your Web Strategy to Reduce Radon Risk*. The Webinar provided an opportunity for radon stakeholders to learn how to develop an effective web outreach strategy, including how to incorporate Web 2.0 techniques and tools into web outreach efforts

<http://www.radonleaders.org/rss>

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Florida Radon Program

Radon is a naturally occurring, invisible, odorless, tasteless gas that is found at low concentrations in outdoor air, but which can reach harmful levels when trapped in buildings. Scientists have long been concerned about the health risk of radon, but never before has there been such overwhelming proof that exposure to elevated levels of radon causes lung cancer in humans. Radon is the second leading cause of lung cancer in the U.S. after smoking, and the leading cause of lung cancer among non-smokers. The U.S. Environmental Protection Agency estimates that radon is responsible for more than 21,000 lung cancer deaths per year.

**SURGEON GENERAL'S WARNING:
Radon causes lung cancer.**

[Special Information for Private Schools Completing the DEQ Scholarship Compliance Form.](#)

For more information call:
1-800-543-8279.

RADON: Did You Know?
VISIT RADONLEADERS.ORG

Radon seeps into homes through cracks in the foundation or seams, and can build up to dangerous levels inside your home.

Radon In Florida
Discussion of radon issues in Florida

Program Overview

Frequently Asked Questions - FAQ's

Mandatory Radon Testing Information - Do I Test?
Guidance, instructions, and requirements for facilities required to test for radon

Radon Measurement and Mitigation Businesses and Individuals
Florida certified radon measurement/mitigation businesses and individuals

www.radonleaders.org/resources/resourcebank/didyouknowresource

Blogging

Mass.gov <http://www.radonleaders.org/resources/resourcebank/didyouknowresource>

Commonwealth Conversations Public Health

Sharing ideas and working together to build a healthier Massachusetts

August 13, 2009

Weekly Report on Novel H1N1 Influenza as of August 13, 2009.

Weekly Report: [Download Weekly Report 8-13-09](#) ([Download PDF Weekly Rept](#))

This Week's Developments:

Yesterday, the Massachusetts Public Health Council (PHC) [approved two sets of emergency regulations](#) that will better protect Bay State health care workers and residents during the upcoming flu season.

The first set of regulations require licensed health care facilities in Massachusetts to offer all employees of those facilities seasonal influenza vaccine, and H1N1 vaccine when it is available. Vaccinating health care workers against the flu is always important but it is even more critical this year. As readers of this blog know well by now, we are facing a flu season in which we will likely have different strains of flu circulating; the seasonal flu as well as the novel H1N1 influenza that first started spreading in the U.S. last spring. H1N1 flu has caused the first flu pandemic in 40 years, which means its geographic spread is now worldwide. While most people who became infected with H1N1 recovered after mild to moderate illness, the outlook for the fall and winter flu season is uncertain. Having different strains of the flu circulating at the same time can increase the number people who get ill and seek care at health care facilities -- and that can increase demands on our health care system as a whole. Find out more by clicking the link below.

[Continue reading "Weekly Report on Novel H1N1 Influenza as of August 13, 2009." »](#)

[Comments \(0\)](#)

August 11, 2009

More EEE Mosquitoes

 **Posted by:**
Tom Lyons, Department of Public Health

Public health people can sound like broken records during mosquito season -- this is particularly true when we get into August and we are constantly reminding people about how to prevent mosquito bites. That's because right around now we start seeing more and more mosquitoes infected with either Eastern Equine Encephalitis (EEE) and with West Nile Virus (WNV). Today we announced that more EEE infected

Categories

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Comment Policy

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<http://publichealth.blog.state.ma.us/>

Micro Blogging

The screenshot shows a Windows Internet Explorer browser window displaying the Twitter profile for 'Georgia Health Info (GAHealthInfo)'. The browser's address bar shows the URL 'http://twitter.com/GAHealthInfo'. The page features the Twitter logo, navigation links (Home, Profile, Find People, Settings, Help, Sign out), and the profile header for 'GAHealthInfo' with a 'Follow' button. The main content area displays four tweets with their text and links. The right sidebar contains profile statistics (256 following, 113 followers), tweet and favorite counts (35 tweets, 0 favorites), and a 'Following' list of various organizations.

Georgia Health Info (GAHealthInfo) on Twitter - Windows Internet Explorer provided by EPA

http://twitter.com/GAHealthInfo

File Edit View Favorites Tools Help

Georgia Health Info (GAHealthInfo) on Twitter

Home Profile Find People Settings Help Sign out

twitter

GAHealthInfo

Follow

Color your diet: Fresh fruit 10 ways.
<http://tinyurl.com/lbvwxu>
about 21 hours ago from web

Try our Health Screening guidelines tool.
[http://georgiahealthinfo go...](http://georgiahealthinfo.go...)
4:06 PM Aug 12th from web

3 percent to 5 percent of adults worldwide experience chronic daily headaches. <http://tinyurl.com/npagnc>
10:49 AM Aug 11th from web

Belly fat in women: How to keep it off. <http://tinyurl.com/l9e9vp>
3:49 PM Aug 6th from web

Survival kit: Stock up on essentials for a disaster.
[http://georgiahealthinfo go...](http://georgiahealthinfo.go...)

Name Georgia Health Info
Location Atlanta, Ga.
Web <http://www.georgi...>
Bio The georgiahealthinfo.gov website is your one-stop shop for all your health needs in Georgia.

256 following 113 followers

Tweets 35

Favorites

Actions
[block GAHealthInfo](#)

Following

- PAWS ATLANTA
- HALF
- 104.7 FISH
- GBC
- PTN

<http://twitter.com/GAHealthInfo>

Micro Blogging

The image shows a screenshot of a Twitter profile page for RadonLeaders.org. The profile name is "RadonLeaders" with the bio "Raising awareness on radon, engaging stakeholders, and working to save lives from radon-induced lung cancer. Join us!". The profile has 15 following and 36 followers. The main content area displays three tweets: a tweet about a webinar on developing web strategy to reduce radon risk, a tweet about subscribing to the organization via RSS, and a tweet about signing up for an EPA webinar. The right sidebar shows the number of updates (83), a list of actions (block RadonLeaders), and a list of users being followed.

twitter

Home Profile Find People Settings Help Sign out

Radon Leaders Saving Lives

RadonLeaders

Follow

Prepping for a Webinar on developing Web strategy to reduce radon risk. Join us!
<https://www1.gotomeeting.co...>
5:54 AM Jul 14th from web

Did you know you can subscribe to RadonLeaders.org via RSS? News, blogs, events and resources all in 1 place
<http://www.radonleaders.org>
5:43 AM Jul 14th from web

Sign up for EPA Webinar on developing your Web strategy!
<https://www1.gotomeeting.co...>
1:13 PM Jul 13th from web

What's your EnviroQ? - EPA's current question at www.epa.gov is on Radon - How many USA lung cancer deaths each year are due to radon?

Name RadonLeaders.org
Web <http://www.RadonL...>
Bio Raising awareness on radon, engaging stakeholders, and working to save lives from radon-induced lung cancer. Join us!

15 following 36 followers

Updates 83

Favorites

Actions
block RadonLeaders

Following

RSS feed of RadonLeaders.org updates

<http://twitter.com/radonleaders>

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Name: US Environmental Protection
EPA's mission is to protect human health and to safeguard the natural environment upon which life depends. Since December 2, 1970, EPA has been working for a cleaner, healthier environment for the American people.

For an accessible (captioned) version of each video, you'll find a link next to the video on the playback page. We've got lots of accessible videos on our website: <http://www.epa.gov/multimedia/rom-video.htm>

We accept comments according to our comment policy: <http://blog.epa.gov/blog/comment-policy/>

Ctr: USA
Hometown: Washington, DC
Country: United States
Occupation: Protecting human health and the...
Website: <http://www.epa.gov>

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Building with Indoor airPLUS
From: USEPAgov
Views: 65

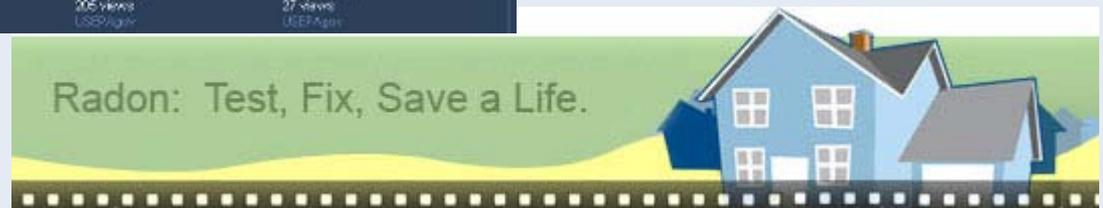
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<http://www.epa.gov/radon/videocontest.html>

Video Contests

U.S. ENVIRONMENTAL PROTECTION AGENCY

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[Getting Started](#) [Contest Rules](#) [Video Gallery](#) [Radon 101](#)

RADON VIDEO CONTEST

Radon: Test, Fix, Save a Life.

The contest has closed. We will begin judging the entries and post the winner within two weeks. Please check back.

We need your help to save lives by getting the word out about radon. Exposure to indoor radon is a serious health risk – it's the second leading cause of lung cancer in the U.S. But the risk can be managed when people test their homes and take action to reduce high radon levels.

To make sure everyone knows how to save a life, EPA is looking for 30 to 60 second videos to educate the public on the health risks of radon and simple steps to protect your health by mitigating high radon levels.

The winning video submission will receive a \$2,500 award, be featured here on our site, and debuted at the 2008 National Radon Meeting in Las Vegas, NV.

We seek videos that convey the message: **Radon: Test, Fix, Save a Life.** Radon is a major health risk, causing more than 20,000 deaths each year. The only way to know if you have a radon problem is to test your home. When high radon levels are detected a professional can install a mitigation system to lower levels in your home. Help us to get the word out and save lives. Create a video that convinces all Americans to test their homes for radon and have them fixed if high radon levels are found.

[Getting Started](#)

- Step 1: Get the Details
- Step 2: Make Your Video
- Step 3: Post your Video to YouTube
- Step 4: Make it Official - Complete the Entry Form

[Contest Rules](#)

- Video Gallery
- Radon 101

Getting Started - Basic Information

Follow these four easy steps to enter the EPA Radon Video Contest:

Step 1: Get the Details

- Videos should be 30 to 60 seconds. Submissions longer than 60 seconds will not be accepted.
- Videos will be judged by an expert panel of EPA employees on the basis of:

Win a \$2,500 Award

The winning submission will receive a \$2,500 award and will be featured here. It will be shown at the 2008 National Radon Meeting in Las Vegas, NV.



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Radon Contest

Watch this "comic book" to learn about radon and the video contest. Click to move forward.



RADON WHAT IS IT? WHAT CAN BE DONE?

HERE'S HOW YOU CAN FIND OUT IF YOUR HOME IS SAFE - FROM RADON

LET'S GET THE WORD OUT!

OH NO! RADON MIGHT BE IN OUR HOUSE! WHAT CAN WE DO?



NATIONAL RADON PROGRAM



North Carolina's Program Updates April 2008 – August 2009

NORTH CAROLINA



RADIATION PROTECTION

Dr. Felix Fong, PhD

Catherine Rosfjord, MS

Nathalie Wenzell-Ortiz, MHP



NATIONAL RADON PROGRAM



Rules and Regulations Development

After researching regulations in other states, we developed a 3-stage plan for developing regulations in NC:

1. Require mitigators and measurement providers to have nationally recognized certification (NEHA, NRSB).
2. Require an additional NC certification exam.
3. Require RRNC to be part of new building code in Zone 1 counties.



NATIONAL RADON PROGRAM



Rules and Regulations Development

- Have made presentations and received feedback from the NC Radiation Protection Commission and the Environmental Surveillance Advisory Committee.
- Will present to ESA again on September 15, 2010 where a representative from the Attorney General's office will be in attendance.





NATIONAL RADON PROGRAM



Website Revisions

Currently working on updates and improvements to www.ncradon.org in order to make more user friendly and have more up to date information.

The screenshot shows a web browser window displaying the North Carolina Department of Environment and Natural Resources website. The page title is "N.C. Radon Program". The navigation bar includes "Division of Environmental Health", "NCDENR", "NCGov.com", "SEARCH RPS", and "RPS Home". The main content area features a "Quick Links" sidebar on the left with items like "Program Overview", "Purchase a Radon Test Kit", "Radon Publications", "Frequently Asked Questions", "National Radon Action Month", "Radon Outreach", "Radon Myths", "Program Contacts", and "News and Notices". The main content area is titled "N.C. Radon Program" and contains several sections: "Basic Radon Information", "Radon Testing", "Certified Radon Service Providers", "Radon Training", "Radon Information for Special Groups", "Radon Mitigation", "Radon and Real Estate Transactions", "Radon Research and Data", and "Radon in North Carolina". Each section provides a brief overview and links to more detailed information.



NATIONAL RADON PROGRAM



Developed Real Estate Continuing Education Class

- Curriculum approved by NC Real Estate Commission for CE credits.
- Taught in conjunction with Lead and Mold.
- Course offered once last fall and once this spring.





NATIONAL RADON PROGRAM



Developed Newborn Brochure

- To be distributed at hospitals, maternity classes, and OB-GYN offices.
- Brochure offers coupon for free radon test kit for pregnant and new mothers.

North Carolina Newborn Radon Program



**PROTECT YOUR
FAMILY FROM
RADON-INDUCED
LUNG CANCER**



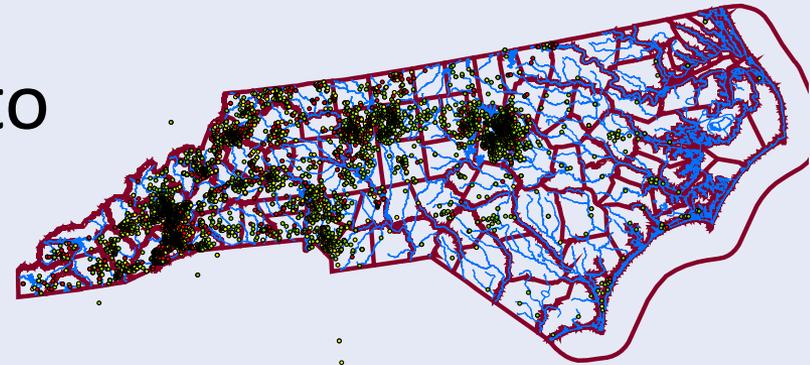


NATIONAL RADON PROGRAM



Map Development

- Gathered test kit data going back approximately 7 years.
- Did quality control on data to remove duplicate test sites, post-mitigation testing, crawlspaces, etc.
- Plotted data points using ArcMap to develop map.





NATIONAL RADON PROGRAM



Partnership with Western Carolina University



- Assisted in helping WCU to acquire EPA surplus equipment.
- Developing service learning project for students to test buildings for radon this fall.
- Assisting in developing a radiation specific environmental health class for next spring.



NATIONAL RADON PROGRAM



Hosted Mitigation Course October 27-31, 2008 Greensboro, NC

- Contracted with Southern Regional Radon Training Center.
- 14 took the exam, 8 passed, and 4 became certified mitigators.



NATIONAL RADON PROGRAM



Formation of Blue Ridge Chapter of AARST November 2009



We have participated in meetings and will be partnering with this newly formed group.



NATIONAL RADON PROGRAM



Radon Test Kit Giveaway during NRAM

- 3,143 total test kits given away.
- 1,580 mailed out by our offices.
- 1,563 given away by cooperative extension offices with which we partnered.



NATIONAL RADON PROGRAM



Participated in National Radon Poster Contest





NATIONAL RADON PROGRAM



Quality Assurance/ Quality Control Plan

Finalized first draft, as stipulated by EPA grant requirements.



NATIONAL RADON PROGRAM



Personnel Hurdles Overcome (Temporarily)

- Trained two new employees for same position in Raleigh in the past year.
- Dealt with issues that arise from being short staffed while also trying to interview and hire.
- Unfortunately, this will be repeated twice more by the end of the year when Nathalie resigns and Felix retires.



NATIONAL RADON PROGRAM



Budget Restrictions



- NC state government has experienced severe budget restrictions since this past spring.
- Has limited certain programs, slowed down purchasing requests, and prevented overnight travel.
- This has resulted in some delays in providing services to the public.



NATIONAL RADON PROGRAM



General Radon Presentations

21 middle school and high school classes, 1 seniors group, 1 homeowners' association, 3 mother/baby groups, 1 elementary school teachers group, 1 cooperative extension group, booth at "Health on the Block" fair, booth at National Lung Cancer road race, booth at Science Teachers Workshop.





NATIONAL RADON PROGRAM



More Technical Radon Presentations

2 real estate classes for CE credits, 1
ECO consultant real estate class, 2
real estate board meetings, 1
building construction class,
Environmental health class at WCU,
Science and engineering club at
Piedmont CC, Chemistry class at
Gaston CC.





NATIONAL RADON PROGRAM



Partnerships

Trilogy School, UNC-Charlotte, Cooperative-Extension health fairs, Highway Patrol building testing.





NATIONAL RADON PROGRAM



Georgia Department of Community Affairs (DCA)



Georgia
Department of Community Affairs

60 Executive Park South, NE • Atlanta, GA 30329

Go Keyword Search

[Home](#) | [How Do It?](#) | [Audience](#) | [Programs](#) | [Publications & Research](#) | [Forms & Surveys](#) | [Searchable Databases](#) | [Maps](#)



DCA News and Events
Read about the latest news and events at DCA ["Exceeding Excellence" Nominations](#)

About DCA
Learn more about DCA, its job opportunities and vendor (RFP/RFQ) opportunities.

Related Links
Explore other websites related to DCA.

Contact DCA
Contact information for central and field offices.

Team Georgia
Learn more about Team Georgia

Communities of Opportunity
Learn more about the Communities of Opportunity Initiative

Signature Community Program
Learn more about the Signature Community Program

Georgia Open Records Act
Submit a GORA request

Upcoming Events

Helping Build Communities
DCA provides a variety of community development programs to help the state's communities realize their growth and development goals.
[Community Development Block Grant \(CDBG\)](#) | [Downtown Development](#) | [Neighborhood Stabilization Program \(NSP\)](#) | [Volunteering](#) | [Biosocialism](#) | [Community Initiatives](#)

Enabling Economic Development
DCA offers a variety of economic development incentives and tools designed to help promote growth and job creation throughout the state.
[Monies](#) | [Tax Credits](#) | [Development Tools](#)

Promoting Housing Options
DCA helps put all Georgia's citizens in decent housing through a range of programs designed to foster new housing development, homeownership, and improved housing choices. Learn more about the Housing Choice Voucher program [Housing Choice Voucher](#)
[Homeownership](#) | [Social Services](#) | [Home Development](#) | [Homeless & Special Needs](#) | [Homeowner Affordability and Stability Plan](#)

Fostering Sustainable Development
DCA promotes sustainability, environmental protection, and enhanced quality of life by encouraging local implementation of generally accepted best growth and development practices.
[Planning and Quality Growth](#) | [Environmental Management](#) | [Construction Codes](#) | [Research](#)

American Recovery and Reinvestment Act (ARRA)
[American Recovery and Reinvestment Act \(ARRA\)](#)



Statements | Site Map | Contact DCA



NATIONAL RADON PROGRAM



Georgia Radon Education Program

DCA is a state agency that serves as an advocate for local governments and operates a wide variety of state and federal grant programs:

- Is the state's lead agency in housing finance and development
- promulgates building codes to be adopted by local governments
- provides comprehensive planning, technical and research assistance to local governments
- serves as the lead agency for the state's solid waste reduction and recycling efforts



NATIONAL RADON PROGRAM



Georgia Radon Education Program

DCA contracts with the UGA Extension Service, helping to fund five radon educators working primarily in the north Ga high radon areas

DCA contracts with Southface Energy Institute, Inc. for builder training, Earthcraft House activities, and the statewide Radon Information Hotline.

Both contractors address homeowner issues and distribute radon test kits, among many other activities



NATIONAL RADON PROGRAM



Georgia Residential Green Building Code

- The State Codes Advisory Committee (SCAC) has authorized a task force to develop a statewide residential green building code based on the ICC-700 *National Green Building Standard* developed by the International Code Council (ICC) and the National Association of Home Builders (NAHB)
- The task force will begin meeting in the fall of 2009 and continue meeting until its charge has been completed, expected by spring of 2010. This code would take effect on January 1, 2011 as a permissive code. Local governments must adopt this code if they choose to enforce it.
- DCA secured funding through the American Recovery and Reinvestment Act of 2009 to support this task force and implement the new code.



NATIONAL RADON PROGRAM



NAHB National Green Building Standard

902.3 Radon control. Radon control measures are in accordance with ICC IRC Appendix F.

Zones are defined by EPA Radon Zones Map

(1) Buildings located in Zone 1

- (a) a passive radon system is installed
- (b) an active radon system is installed

Mandatory

10 points
15 points

(2) Buildings located in Zone 2

- (a) a passive radon system is installed

10 points



NATIONAL RADON PROGRAM



Affordable Housing Radon Requirements

- The Georgia Department of Community Affairs (“DCA”) requires site-specific environmental assessment for all development proposals being considered for funding with 9% Tax Credits, 4% Tax Credits, and/or HOME Loans.
- At a minimum, DCA requires a Phase I Environmental Site Assessment (“Phase I”), in accordance with, but not limited to, standards developed by the American Society for Testing and Materials’ (“ASTM”) and set forth in the “Standard Practice for Environmental Site Assessments, Phase I Site Assessment Process.”, ASTM 1527-05.
- For projects which request HOME funds or list other HUD funding sources, including but not limited to Project Based Rental Assistance (“PBRA”), the Environmental Professional must complete the HOME and HUD Environmental Questionnaire



NATIONAL RADON PROGRAM



Southface Radon Program



- Southface participates in the EPA State Indoor Radon Grant for Georgia through a contract with the Georgia Department of Community Affairs
- Southface has two major responsibilities
 1. Promote Radon Testing and Mitigation
 2. Promote Radon Resistant New Construction



NATIONAL RADON PROGRAM



Southface Radon Program

Promote Radon Testing and Mitigation

- Georgia Radon Hotline
- Existing Homes Programs
- Realtor Partnership
- Georgia Department of Community Health





NATIONAL RADON PROGRAM



Southface Radon Program

Promote Radon Resistant New Construction (RRNC)

- Builder Training and Outreach
- RRNC Trainings
- Green Building Programs





NATIONAL RADON PROGRAM



Southface Radon Program

Green Building Programs

- EarthCraft House

RRNC Addendum

- LEED for Homes

Incentivizes IAP

Requires RRNC for Zone 1

Incentivizes RRNC for Zones 2 & 3





NATIONAL RADON PROGRAM



Southface Radon Program

Atlanta Green Building Ordinance

- All new construction except low-rise residential
- Requires RRNC referencing EPA Guide to Radon Prevention in School and other Large Building
- Currently in approval process





NATIONAL RADON PROGRAM



KENTUCKY RADON PROGRAM



State Capitol



Human Resources Building



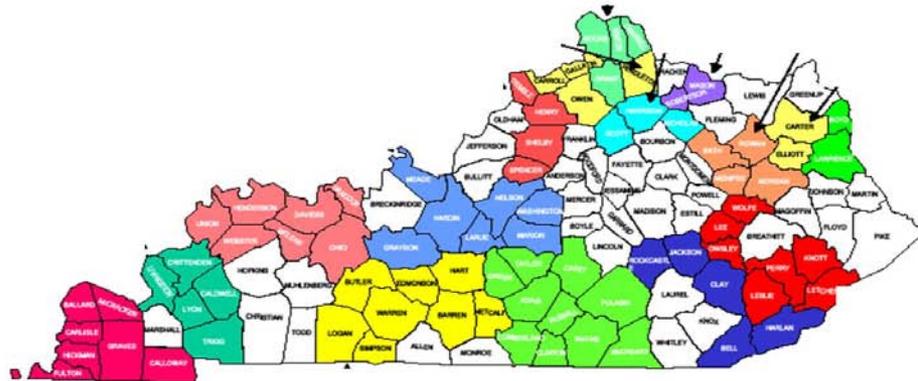
Dept. of Public Health



NATIONAL RADON PROGRAM



KENTUCKY RADON PROGRAM





NATIONAL RADON PROGRAM



KENTUCKY REGULATION TASK FORCE	
State Health Official	1
Radon Professionals	2
Home Inspectors	2
Local Health Officials	2
CRCPD Staff	1
Total	8

- Reviewed and approved full draft of regulations – March 2009
- Submitted regulation to Cabinet for review – June 2009
- Next steps: Post in Administrative Register, Public Comment, Submission to Legislative Research Commission



NATIONAL RADON PROGRAM



Radon Inspection Class
Harrodsburg, KY
August 2009





NATIONAL RADON PROGRAM



National Radon Action Month

KENTUCKY NRAM 2009 Significant Event Activities	Results
Educational forum held at Garth Elementary (unplanned)	102 test kit requests
TV Interview on WAVE 3 NEWS	423 test kit requests
Local Health Departments (coupons, proclamations, radio, newspaper, etc)	387 test kit requests





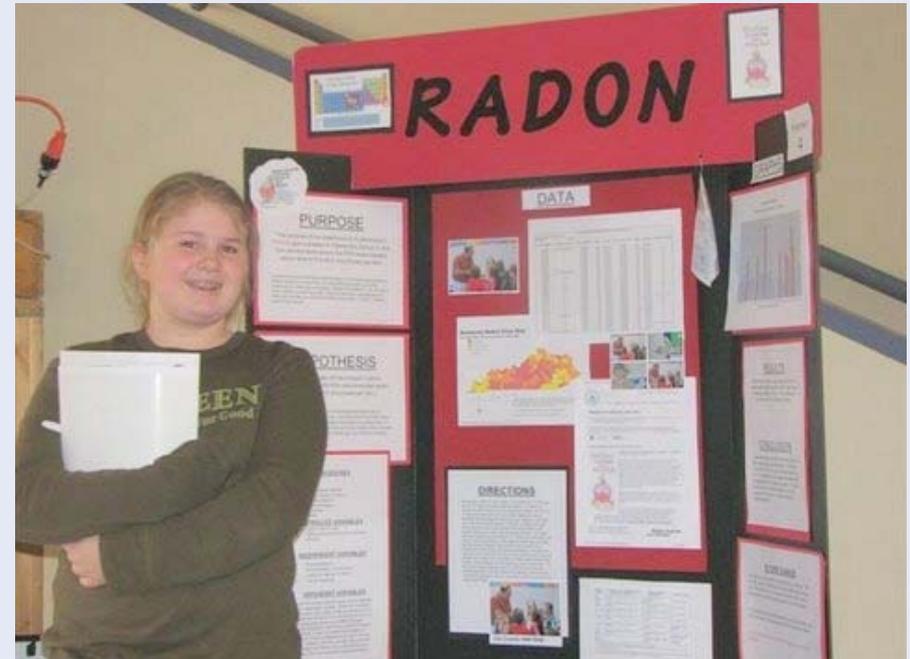
NATIONAL RADON PROGRAM



National Radon Action Month

Irvine, KY – Proclamation Signing

Lexington, KY – School Project



RADON: TEST, FIX, SAVE A LIFE.



NATIONAL RADON PROGRAM



RI VER ROAD BIKE RIDE

"Pedaling for Radon Awareness"

16 MILES OF SCENIC BIKE RIDING



SATURDAY, JUNE 6, 2009

9:30 A.M.

ESTILL CO. FAIRGROUNDS, IRVINE, KY.

(606) 723-5181 EXT. 236

*Sponsored by: Estill Co. Health Department and
KARP (Kentucky Association of Radon Professionals)*



NATIONAL RADON PROGRAM



Estill County Bike Ride

Irvine, KY



- Kenny Cole, Estill County Radon Coordinator
- People like to ride bikes for different causes
- 16 mile ride
- 1st was ride was in October 2007
- 20 riders
- Advertised through radio and newspaper
- Good support from Health Department Staff
- Kentucky Association of Radon Professionals, Co-sponsor
- Plan to do more coordination with KARP in future



NATIONAL RADON PROGRAM



Radon Awareness and Testing Intentions Survey

- Collaborative effort between the Kentucky Radon Program and:
 - University of Kentucky Clean Indoor Air Partnership
 - University of Kentucky College of Nursing
 - University of Kentucky College of Public Health
- Research completed by PhD/MPH student, Gwendolyn Rinker



NATIONAL RADON PROGRAM



Radon Awareness and Testing Intentions Survey

- Examined factors related to plans to test for radon in two groups:
 - Random group from 5 Kentucky counties
 - All those who requested kits from Kentucky Radon Program between January and May, 2009
- Results presented at AARST/CRCPPD in September—hope to see you there!



NATIONAL RADON PROGRAM



- The Northern Kentucky Radon Coalition is a local partnership designed to protect individuals from radon exposure. The project is administered through the University of Kentucky (UK) College of Nursing Clean Indoor Air Partnership's Northern Kentucky Office located in Covington.
- **GOAL:** Grow local coalition, promote local awareness for testing and mitigation, and affect policy change in Northern Kentucky.

RADON: TEST, FIX, SAVE A LIFE.



NATIONAL RADON PROGRAM





NATIONAL RADON PROGRAM



- Ordinance for testing proposed in 2009
- 40 presentations to community organizations since it's beginning
- During radon action month, the Covington Mayor as well as 3 county Judge-Executives signed local proclamations
- Prepared a document that compiles radon legislation in US
- Northern Kentucky University Statistics class – county radon profiles
- Radon Policy Brief [work in progress]



NATIONAL RADON PROGRAM



Top 5 needs

1. Disclosure and notification is part of every real estate transaction
2. See that all public structures (schools, daycares, assisted living facilities, apartment communities) are tested and fixed
3. EPA is able to be a top resource that can provide details regarding how a federal tax credit and mandate for RRNC could be beneficial.
4. A more active role in utilizing authority vested by law (HUD)
5. Single standard for testing and mitigation (single family, multi-family, commercial).

RADON: TEST, FIX, SAVE A LIFE.



NATIONAL RADON PROGRAM



Alabama Radon Education Program





NATIONAL RADON PROGRAM



Alabama Radon Team Members

Dr. Evelyn Crayton - Director of Radon Program

Jim McNeas – Grant Overseer

Patricia W. Smith – Alabama State Radon Coordinator

Suanne Gilbert – Radon Outreach Administrator

Beverly Joe Carswell – AL Dept. of Public Health

Clarene Johnson – District Extension Coordinator

Dr. Paul Waddy – District Extension Coordinator

County Extension Coordinators – *Marsha Moorhead*, Clay County; *Deborah Mathews*, Cleburne; *Teresa McDonald*, Colbert; *Roger Vines*, Coosa; *Katernia Cole*, Franklin; *Themika Sims*, Jackson; *Jackie Ramsey*, Jefferson; *Randall Armstrong*, Lauderdale; *Linda Robinson*, Lawrence; *Betty Broman*, Limestone; *Walter Harris*, Madison; *Chuck Howard*, Marshall; *Ronald Britnell*, Morgan; *Ricky Colquitt*, Shelby; *Wanda Jurriaans*, Talladega
 Regional Extension Agents – *Elaine Softley*, Franklin; *Walter Rogers*, Madison; *Shirley Whitten*, Madison; *Sharon Haynes*, Talladega; *Sallie Lee*, Jefferson



NATIONAL RADON PROGRAM



Utilizing Existing Tools to Move the Radon Message Across The 15 Zone I Counties During National Radon Action Month 2009

Kick Radon Out

RADON WORD SEARCH
Find and circle the hidden words in the Radon Word Search below.

P X R V
 F O U I R E S
 M V C O I E U A I S
 T U I O P B E D D C D I X M
 G H J K L Z X B J H E S I D F G
 M O A P E D V B M I T I G A T I O N I E
 S P O I U Y O R E D R F T G E L A A D O Z
 Y H U J I K I N L P A E E I C S C D C F V
 T E S T M K L A T N E V I L T I T O O N M
 R M E N W B Q U A S S D F E I I I R E O P
 I R E T T O P Y N V M T R D O X V E W M Z E
 A L A I A E A Y I G E O W R N T E H F U D F E
 R S R E A C X V N B C H K U O M O A P I H R Y
 T G A B V H G Y T R V A G E T E Z H J N U I T
 O F D R D S O I E Y T H N N C M E M G A S I O N
 W I O G S M I U M B V C D C L O I E Y R E A I O
 Y W N H A F D E S K C O R E E D I O P U X L K U
 K F E A F V W I N E U I E S E R T Q A Z N O B J H
 L M O E P P E L Q U E A L S O I L T W J I M Y B
 L S T E P H I A E S T D R Q Z X C D R E A S
 T Y A D K L B M A L A B A M A N D I G L

Find these radon words:

RADON	VENT	TEST	DON'T SMOKE	ROCKS
MITIGATION	DETECTION	GAS	URANIUM	ALABAMA
LUNG CANCER	HOUSE	SAFETY	RADIOACTIVE	SOIL

Published by the Alabama Cooperative Extension System (Alabama A&M and Auburn Universities) in cooperation with the U.S. Department of Agriculture. An equal opportunity educator and employer.

Test Your Home For Radon

RADON TEST ORDER FORM
Only \$5.00 (plus \$1.50 shipping & handling)

This special radon test kit is provided by the Alabama Cooperative Extension System, the Alabama Department of Public Health, and the U.S. Environmental Protection Agency. The test kit includes analysis, postage-paid mailer, and laboratory test report.

NAME _____

ADDRESS _____

CITY _____

STATE _____ ZIP _____

PHONE () _____

Offer valid for Alabama residents only.

Mail this coupon with check, money order, or credit card information to:

AccuStar
P.O. Box 158
Medway, MA 02053-9916

Number of kits _____ x \$6.50 = Total _____

Credit Card Information:
 Visa Mastercard

Expiration date information: _____/_____/_____
 Name on card _____
 Authorized signature _____

Not intended for commercial use or resale

CODE 94B

Alabama Radon Hotline (800) 582-1866
www.alaces.edu/radon

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NATIONAL RADON PROGRAM



Marketing the Radon Message through State Radon Activities NRAM 2009

JANUARY IS NATIONAL RADON ACTION MONTH
Test Your Home. Protect Your Health.

Alabama Radon Program

Patricia Smith – Alabama State Radon Coordinator

Alabama Radon Zones

- Zone 1 - High potential
- Zone 2 - Moderate potential
- Zone 3 - Lowest potential

Radon Test Kit

Lauderdale County, Alabama

Declaration

Alabama State Radon Report

RADON IN ALABAMA

Living Healthy and Green Starts from the ground up. Test your home for Radon. www.epa.gov/radon

BUILD GREEN



NATIONAL RADON PROGRAM



South Carolina Radon Program (SC DHEC)

Region 4 Meeting Program Update



NATIONAL RADON PROGRAM



New Program Developments

- Training Courses
 - RRNC Techniques Seminar: 22
 - Radon Mitigation: 23
 - Advanced ASD Diagnostics & System Design Workshop
 - Participants from all over SE
 - Added 2 new mitigators



NATIONAL RADON PROGRAM



New Program Developments

- New Partnerships
 - PHD of NRESS including radon brochure in public education
 - BOW Drinking Water Program



NATIONAL RADON PROGRAM



Dear Customer,

We are required to track the number of mitigations as part of our grant requirement from the Environmental Protection Agency (EPA). You can help us achieve this goal by calling, emailing, or sending us the following information if you have a Radon Reduction System (mitigation) installed. Instructions on how to fill out the form are on the back of this page.

1. Name: _____
2. Address: _____
3. Phone Number: _____
4. Name of Radon Mitigation Company: _____
5. Date the Radon Reduction System (mitigation) was installed: _____
6. Type of Radon Reduction System (mitigation) installed:
 - a. By Radon Mitigation Company: _____
 - b. By Homeowner: _____
7. Pre-Radon Reduction System (mitigation) radon results and location (pCi/L): _____
8. Post-Radon Reduction System (mitigation) radon results and location (pCi/L): _____

You can call 1-800-768-0362 or 864-241-1095 or email radon@dhec.sc.gov. You can also mail this form to:

Radon Program
 301 University Ridge, Suite 5800
 Greenville, SC 29605

We appreciate your support in this matter; you are helping our State Radon Program continue to educate and reach out to the public!

DHEC 2075 (5/2009)



NATIONAL RADON PROGRAM



New Program Developments

- Physicians Pilot Project
 - Sent packets of info to Oncologists and Pulmonologists in state.
 - Packets included:
 - Cover letter
 - EPA's Risk Assessment table
 - Dr. Field's testimony paper from the President's Cancer Panel in Charleston, SC
 - Lung Cancer Alliance fact sheet re: research dollars and cancer statistics.
 - Created a brochure "What You Need To Know About Radon and Your Health"



NATIONAL RADON PROGRAM



New Program Developments

- Contractor data
 - Voluntarily asking for data from certified professionals in SC
 - 17 certified measurement providers
 - 6 certified mitigators
 - Participation rate=disappointing
 - Plan to send reminder before Sept.
 - Working on electronic form submission efficiency



NATIONAL RADON PROGRAM



SC Department of Health and Environmental Control Voluntary Radon in Air Mitigation Tracking Form

When completed, please return to:

SC Department of Health and Environmental Control
 Radon Program
 301 University Ridge, Ste. 5800
 Greenville, SC 29601
 Phone: 864-241-1090
 Fax: 864-241-1092

Year starts in October and ends in September

Reporting Period: Quarter 1 (Oct-Dec) ___

Qtr 2 (Jan-Mar) ___ Qtr 3 (Apr-June) ___

Qtr 4 (July-Sept) ___

Date Submitted: _____

Company Name: _____

Contact Person: _____

Address: _____

Phone Number: _____

For each mitigation system installed by your company since the last reporting period, please complete the following fields.

If no work was conducted, state on the form below and send back

Date	Type of Mitigation	Built with RRNC	Zip code	County	City	Pre-Mitigation Test Result (pCi/L)* and location	Post-Mitigation Test Result (pCi/L)* and location
Example: 4/1/05	Sub-Slab Depressurization (SSD) Air to Air/ Heat Recovery Ventilator	No	29601	Greenville	Greenville	14.6 basement	1.2 basement

* if available



NATIONAL RADON PROGRAM



New Program Developments

- Post card reminder to return kits
- Online radon test kit request form
- Maps
- Poster contest
- RRNC



NATIONAL RADON PROGRAM



Needs from the Region 4 Network

- Continued support
- Peer review
- Advice-success and failure stories
- Insight specific to our region, our climate, our culture, our environment.



NATIONAL RADON PROGRAM



EPA “Wish List”

- Tools, tools, tools
 - Canned presentations tailored to different types of audiences
 - Tool kits for tapping into territory that is new to a program: real estate, RRNC, regulations etc.
 - Knowledge of resources: strong research studies, ideas or projects from other states
 - Database of projects and who has worked on those projects
 - Updated version of the “Physicians Guide to Radon” with new medical studies



NATIONAL RADON PROGRAM



EPA “Wish List”

- Continue to be available and accessible
- More exposure on National level
 - PSAs, work with partners at the National level, key players etc.
- Help us solve problems with certified mitigators/measurers

RADON: TEST, FIX, SAVE A LIFE.



NATIONAL RADON PROGRAM



State of Tennessee Report

Region 4 Radon Workshop

Kathy Glapa
August 17-19, 2009



NATIONAL RADON PROGRAM



Radon Action Month Outreach Initiatives

- Radon Message on Utility Bills
- TN Conservationist
- County Mayors proclamation – 28 counties participated
- Governor Proclamation
- Mercury Thermometer swaps along with free test kits
- Hospital Employee Newsletters (6 hospitals)



NATIONAL RADON PROGRAM



Test Kits

- FY 2006-2007 less than 700 requests for test kits in the grant period.
- FY 2007-2008 A total of 8,746 test kit requests
- FY 2008-2009 (Oct-March 2009) A total of 8,935 test kit requests. Which is more than what all of the last fiscal year received.



NATIONAL RADON PROGRAM



Ground Water Protection

Renewed our Memorandum of Understanding with the Division of Ground Water Protection (GWP) in the Department of Environment and Conservation. GWP issues permits and inspects all new and renewing septic tank permits where public sewer service is not available.



NATIONAL RADON PROGRAM



American Lung Association

TDEC Radon Program collaborated (sub-grant) with the American Lung Association of Tennessee and agreed to sponsor up to four events that will be held statewide to help publicize the dangers of Radon in homes.



NATIONAL RADON PROGRAM



Southern Regional Radon Training Center 1-800-446-0382

Classes to be held First of November 2009:

- Radon Measurement Training
- Karst Measurement & Mitigation
- Quality Assurance and Quality Control Workshop
- Radon Mitigation Training



NATIONAL RADON PROGRAM



Environmental Coordinators

Charles Jobe – Middle TN

Jan Compton – Upper East TN

Vaughn Cassidy – West TN

Mark Penland – Lower East TN



NATIONAL RADON PROGRAM



Other Outreach Activities

- Radon Poster Contest
- Our newest Radon Activist (FREE)
- Permanent Mercury Thermometer swaps and Radon Education locations in Middle TN
- Spanish brochures
- Radon Postcard reminder
 - July 2008 - December 2008
 - January 2009 - June 2009



NATIONAL RADON PROGRAM



1-800-232-1139

www.tn.gov/environment/ea/radon

1. **Kathy Glapa -**
Kathy.glapa@tn.gov
615-253-8780
2. **Ken Nafe-**
Ken.nafe@tn.gov
615-253-5449
3. **Amy Inabinet-**
Amy.inabinet@tn.gov
615-687-7071



RADON: TEST, FIX, SAVE A LIFE.



NATIONAL RADON PROGRAM



RADON EDUCATION PROGRAM

1-800-ASK-UGA1

www.fcs.uga.edu/radon

The University of Georgia



Indoor Air Quality (IAQ)



RADON: TEST, FIX, SAVE A LIFE.



NATIONAL RADON PROGRAM



Radon Outreach July 2008 through June 2009

Radon Programs & Classes	176
Participants	6,112
Events/Exhibits	65
# of People Reached	52,603
Radon Materials Distributed	23,385



RADON: TEST, FIX, SAVE A LIFE.



NATIONAL RADON PROGRAM



Radon Media Outreach

Radio & TV Programs/PSA's	768
• Reached Over 1 Million Georgians	
Newspaper & Newsletter Articles	29
• Reached Over 408,000 Georgians	



RADON: TEST, FIX, SAVE A LIFE.



NATIONAL RADON PROGRAM



Radon Testing Data July 2008 – June 2009

Test Kits Distributed	4,925
Test Results Received	1,789
Elevated Results, ≥ 4.0 pCi/L	423
% Elevated Results	27%
*Highest Reported Level	36.2 pCi/L



RADON: TEST, FIX, SAVE A LIFE.



NATIONAL RADON PROGRAM



Georgia Radon Mitigations & RRNC

- 804 Reported Mitigations
- 641 Reported RRNC
- 69% Increase in Mitigations Compared with One Year Ago



RADON: TEST, FIX, SAVE A LIFE.



NATIONAL RADON PROGRAM



RADON ACCOLADES

2008 NEAFCS Extension
Southern Region
Housing Award



2009 NEAFCS Community Partnership Award
Southern Region Winner

RADON: TEST, FIX, SAVE A LIFE.



NATIONAL RADON PROGRAM



2009

National Radon
Poster Contest
1st Place Winner
Shana Stone
Good Hope, GA

GA Governor
Sonny Perdue
Radon Proclamation



Indoor Air Quality (IAQ)



RADON: TEST, FIX, SAVE A LIFE.



NATIONAL RADON PROGRAM



2009 National Environmental Public Health Conference Atlanta, Georgia

Radon Presentation by Jorge H. Atilas, Ph.D.



RADON: TEST, FIX, SAVE A LIFE.



NATIONAL RADON PROGRAM



Two New Strategies to share the Radon Message in the Community

- Town Hall Meetings with County Commissioners
- Neighborhood Association Meetings

Edda Cotto-Rivera

Indoor Air Quality (IAQ)



RADON: TEST, FIX, SAVE A LIFE.



NATIONAL RADON PROGRAM



GA Radon Program Quarterly Newsletters Ginger Bennett Editor



RADON: TEST, FIX, SAVE A LIFE.



NATIONAL RADON PROGRAM



- GA Power and Southern Company invited the UGA Cooperative Extension Radon Education Program to participate in their state-wide series of employee wellness fairs.
- Over 2,500 employees were reached through radon exhibits at 5 such fairs.
- 3 Radon Educators, 2 Family & Consumer Science Extension Agents and representatives from Southface Energy Institute and Region IV EPA provided manpower for these exhibits.
- Coordination was provided by Ginger Bennett, Radon Educator



NATIONAL RADON PROGRAM



Mitigation & RRNC

- Radon Mitigation-Consumer Beware Publication Provides Mitigation Recommendations & Mitigation Checklist for Consumers
- Building Radon Out – Radon Resistant New Construction Brochure Developed and Implemented in: Walton, Clarke and Oconee Counties

Becky Chenhall





RADON: TEST, FIX, SAVE A LIFE.



NATIONAL RADON PROGRAM



Elbert County Radon Education Program

- Elderly client called with chronic health problems she felt were related to her home.
- She did not have transportation so I assisted her with acquiring her test kit and educated her on placement and mailing.
- Test Kit Results were 1.6 ± 0.3 pCi/L, ruled out Radon.
- Determined health issues were related to a moisture problem under the home.
- Repairs have been made and client is not experiencing the related health problems.

Christa Campbell

Indoor Air Quality (IAQ)



NATIONAL RADON PROGRAM



2009 Radon Poster Contest Award Ceremony
More than 200 children participated in the contest.
Georgia won the National Poster contest three times.

Ines Beltran

Grants Management

State Indoor Radon Grants

Betty Barton – Barton.betty@epa.gov 404/562-9132

Stuart Perry

Patsy Brooks

Topics

- Introduce Grants Team
- Current Grants
- New Grants
- Overview of SIRG Framework
- EPA Oversight
- Quality Assurance
- Program Income Issues
- Allocations for New Grants
- Open Discussion

Current Grants

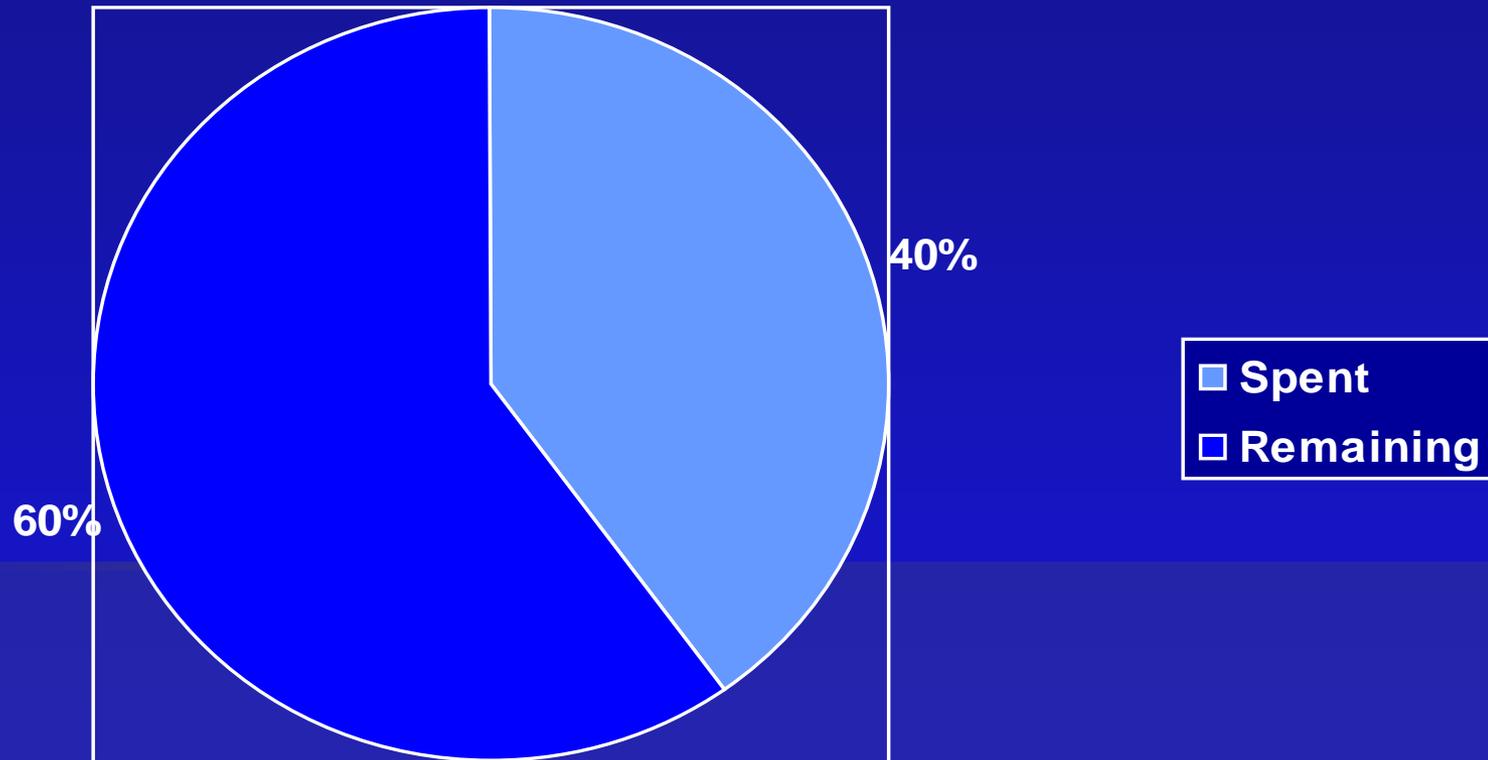
Current Grants

- FY 09 appropriation signed into law 3/11/09.
- R4 received funding 4/21/09.
- R4 states received incremental funding by 6/12/09.

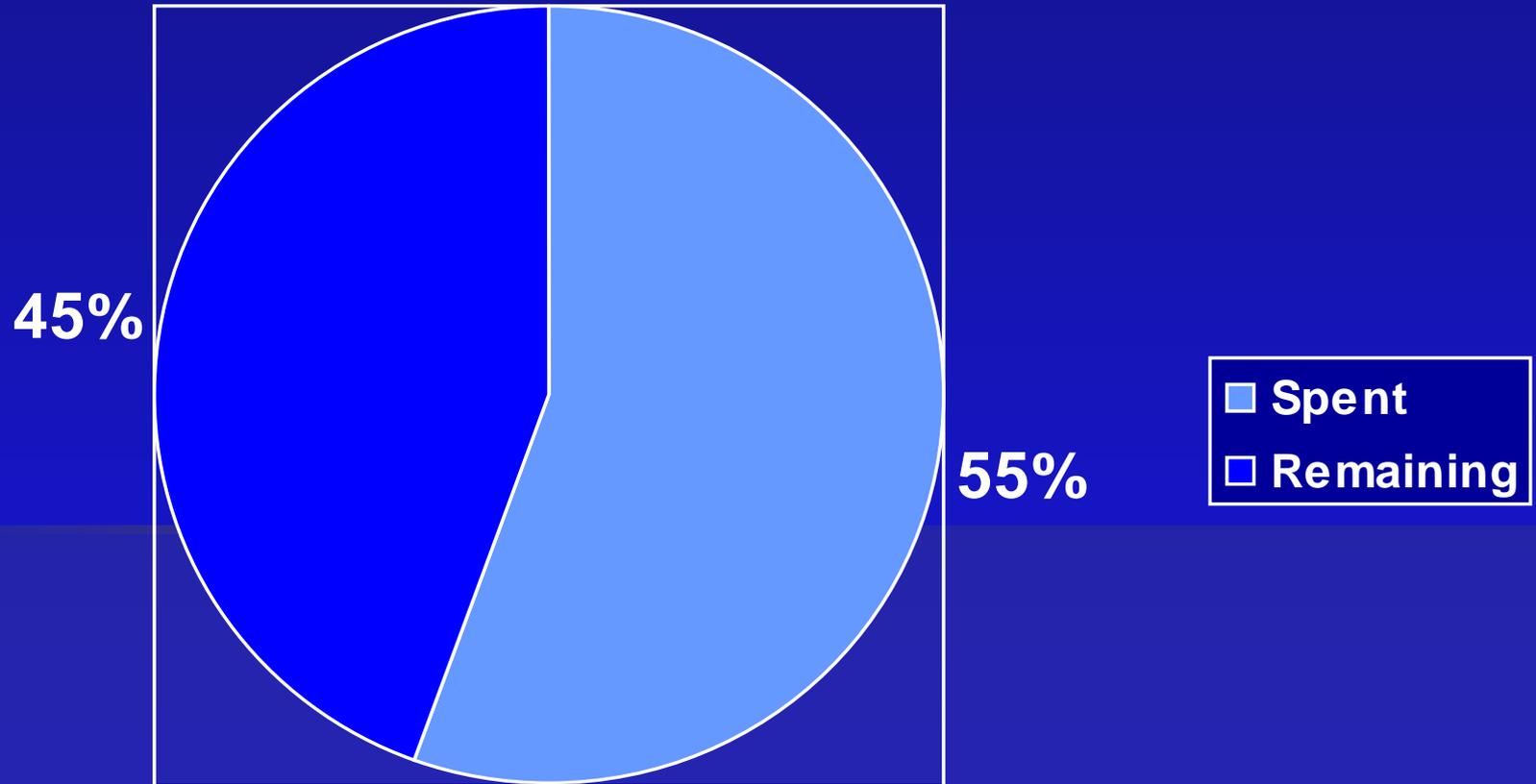
Current Grants

- Grants end 3/31/10.
 - Except SC ends 9/30/09 and 9/30/10.
- All applications have been fully funded.
- No additional funds awarded until new grant applications are received.
- Semi-annual reports - due 4/30/09 & again 10/31/09.

Federal Funds Remaining on Current Grants



Time Remaining on Current Grants



New Grant Awards

Before FY 10 Funds Are Awarded

- Satisfactory performance determinations.
- QAPPs approved.
- New Grant Application Packages and workplans from States.

The Old Days

Region 4 SIRG

- Every year was a new grant cycle--new grant application, final Financial Status Report, etc.
- FY 07: Funded with FY 06 appropriation.
- FY 08: Funded with FY 07 appropriation.
- States knew before the FY began what your allocation for the FY would be.

The New Approach

- States are using funds in the year they are appropriated.
- FY 09: States received FY 08 + FY 09 funds.
- Budget Period Oct 1, 2008 – March 31, 2010.
 - Except SC remained Oct 1 – Oct 1 (PPG)

Typical Continuing Program Cycle

- States submit grant application at least 60 days before end of current budget period.
- States begin incurring costs the first day of new budget period.
- EPA will award funds as soon as possible, but ***may be after the budget period begins.***

- Make sure your budget offices are aware of this change.
- Hope for timely annual appropriations instead of continuing resolutions.

Target Timeline

Based on New 2 Year Grants



- 9/30/09 FY 10 appropriation is passed.
- 11/30/09 EPA makes FY 09 satisfactory performance determinations.
- 1/5/10 New applications and workplans due.
- 4/1/10 EPA awards Year 1 funding for new 2-Year grant that begins 4/1/10.

Target Timeline

Based on New 2 Year Grants

- 9/30/09 FY 10 appropriation is passed.
- 10/31/09 States submit progress reports.
- 11/30/09 EPA makes FY 09 satisfactory performance determinations.
- 1/5/10 New applications and workplans due.
- 4/1/10 EPA awards Year 1 funding for new 2-Year grant that begins 4/1/10.
- 4/30/10 States submit progress reports.
- 5/30/10 Final Technical Report due (for grants ending 3/31/10 Joint Evaluations & baseline).
- 6/30/10 Joint evaluation and baseline monitoring are completed.

EPA Program Framework

Refresher

SIRG Program Framework

Statute

Indoor Radon Abatement Act

Regulations

40 Code of Federal Regulations

Policy and Guidance

Statute

Indoor Radon Abatement Act , Section 306

(aka TSCA 306)

<http://frwebgate.access.gpo.gov/cgi-bin/usc.cgi?ACTION=BROWSE&TITLE=15USCC53>

Subchapter III

IRAA Section 306

- Authorizes EPA to make grants . . .

to assist states to develop and implement programs that assess and mitigate radon

and that aim at reducing health risks.

Funds May Be Used For:

- Survey of radon levels . . .
- Development of public info & ed materials
- Etc.

Contents of Grant Applications

per IRAA

1. A description of the seriousness and extent of radon exposure in the state.
2. Identification of
 - the lead state agency
 - roles & responsibilities of any other state agencies and municipal, district or area orgs involved in radon programs.

Grant Applications - continued

per IRAA

3. A description of the activities proposed for the year.
4. A budget specifying federal and state funding of each element of activity.

Information

per IRAA

EPA may request info and data as necessary to make determine continued eligibility for funding.

Information

per IRAA

States receiving funds shall . . .

- provide to EPA all radon-related info generated in its activities.
 - Radon surveys
 - Mitigation demonstration projects
 - Risk communication studies.
- maintain and make available to the public a list of firms and individuals with passing EPA proficiency rating program.

Limitations

per IRAA

- 1) No grant to a recipient that did not satisfactorily implement the activities funded by the grant in the preceding year.
- 2) Costs of radon measurement equipment shall not exceed 50% of a state's grant.

Limitations

per IRAA

- 3) Costs of general overhead shall not exceed 25% of the grant amount.
- 4) May use funds for persons only as related to demo projects or purchase and analysis of radon measurement devices.

Regulations

40 Code of Federal Regulations

http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?sid=8b68406171dc8977ba3e1ca8f04845da&c=ecfr&tpl=/ecfrbrowse/Title40/40cfrv1_02.tpl

40 Code of Federal Regulations

- SIRG Program: 40 CFR 35.290
- All state continuing programs:
40 CFR 35.001 - 35.118

40 Code of Federal Regulations

- Performance Partnership Grants:
40 CFR 35.130 - 35.138
- All EPA assistance agreements to States & Local Agencies: 40 CFR 31

<http://www.epa.gov/lawsregs/search/40cfr.html>

Guidance

National Program Guidance

<http://www.epa.gov/ocfo/npmguidance/index.htm> then scroll to Ofc of Air and Radiation

State and Tribal Indoor Radon Grants Program Guidance and Handbook

<http://www.epa.gov/radon/sirgprogram.html> then scroll to bottom of page.

2010 Program Priorities

- Use SIRG results measures template
- Approve workplans that reflect EPA's radon priorities and measurable results.

2010 Program Priorities continued

- Monitor SIRG recipient performance
 - for results
 - timely expenditure of grant funds.
- Participate in national and regional radon meetings.

2010 Program Priorities - continued

Support the Radon Leaders Saving Lives campaign.

Use Radon Action Month as a way to drive action throughout the year.

EPA Oversight

Key Components



Satisfactory Performance Determination – unique to SIRG	Statutory <i>IRAA</i>
Joint Evaluation – All EPA continuing program grants	Regulatory <i>40 CFR35.115</i>
Advanced Monitoring – 10% of EPA Recipients	Policy <i>EPA Order</i>
Baseline Monitoring – All EPA grants	Policy <i>EPA Order</i>

Satisfactory Performance

- Must satisfactorily implement the activities funded by the grant in the preceding fiscal year before receiving grant funds for the following year.
- Will be documented prior to your receipt of FY 10 funds.

Satisfactory Performance Criteria

- Completion of major milestones.
- Emphasis of EPA's priority areas.
- Indicators of Program Success and Effectiveness.

Joint Evaluation

40 CFR 35.115

- Accomplishments vs. workplan commitments.
- Cumulative effectiveness of work performed under all workplan components.

Joint Evaluation - continued

40 CFR 35.115

- Existing and potential problem areas.
- Suggestions for improvement
 - including, where feasible, schedules for making improvements.

Joint Evaluation

- Target timeline in FY 09 was May 2009, to coincide with receipt of April progress reports.

Baseline Monitoring

EPA Order 5700.6A

- Has work begun?
- Has recipient submitted timely & acceptable progress reports?
- Is progress adequate?

Baseline Monitoring

- Quality Assurance requirements met?
- Any changes that need EPA approval?
- Is rate of funds drawdown reasonable?

EPA Oversight/Monitoring

<i>What</i>	<i>When</i>
Satisfactory Performance Determination –All SIRG	Annual <i>Before FY 10 funds awarded</i>
Joint Evaluation- All State Continuing Envl Programs	Annual <i>May 09 per terms and conditions.</i>
Baseline Monitoring – All Grants	Every 12 months
Advanced Monitoring – 10% of recipients per year.	Annual <i>As Scheduled</i>

Quality Assurance

Program Income



Program Income

- Program income is good.
- It is important that it be correctly addressed in the application and closeout phases.

Program Income

40 CFR 31.25

- “Gross income received by the grantee or subgrantee directly generated by a grant supported activity, or earned only as a result of the grant agreement during the grant period.”

Program Income

40 CFR 31.25

- “Gross income received by the grantee or subgrantee directly generated by a grant supported activity, or earned only as a result of the grant agreement during the grant period.”

Program Income

- Include in your Grant Application.
- Incorporate into your workplan budget.
- Report in Final Financial Status Report
 - Use Long Form!

Program Income Options

- Deduct it from total project budget.*
- Add it to overall project budget—*must be spent on allowable radon program activities, not returned to state general treasury account.*
- *Use it for nonfederal match.*

* Default option if not specified otherwise.

Example: Deduction Method
\$60 K federal allocation; \$40K state match; \$10K
program income.

\$100,000 budget without program income
- 10,000 program income

\$90,000 = EPA + State Share

\$54,000 EPA share + \$36,000 state share.

Example: Addition Method
\$60 K federal allocation, \$40K state match; \$10K
program income.

\$100,000 budget w/out program income

+10,000 program income

\$110,000 = Total Project Budget

\$60,000 EPA share (limited by allocation)

40,000 state share

10,000 program income

Example: Cost Sharing
\$60 K federal, \$40K State Budget; \$10K program
income.

\$100,000 budget w/out program income

EPA Provides \$60,000

State Provides \$30,000

Program Income provides \$10,000

FSRs

- Final FSR is completed differently depending on whether program income is
 - Deducted
 - Added
 - Used for cost share.

Unanticipated Program Income

- Revise grant application to reflect program income.
- Consult with Admin Project Officer.
- Include program income in Final FSR (long form) at closeout.

FY 10 Allocations

Reminders

- Accept EPA Award Offers promptly.
- Address program income in grant applications and FSR.



Recap

- Current Grants
- Planning for New Grants
- Framework and Links
- EPA's Oversight
- Quality Assurance
- Program Income
- FY 10 Allocations



