



*Quarterly highlights:*

- National Radon Conference attended by NREP
- BTC team reduces radon levels at Zephyr Cove Elementary

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## Nevada radon team attends the 18th National Radon Training Conference

The 18th annual National Radon Conference was held at the Tuscany Suites in Las Vegas from Sept. 14-17. Participants traveled from radon programs all over the United States with a common goal of promoting radon testing and mitigation. The conference proved to be a positive experience for the Nevada Radon Education Program (NREP).

Those in attendance included Susan Roberts, Frank Flavin, Megan Long, Jill Ukeiley, Martha Barajas and Evan

Fulton with NREP and Adrian Howe with the Nevada State Health Division.

The conference included members from both the Conference of Radiation Control Program Directors (CRCPD) and the American Association of Radon Scientists and Technologists (AARST). This enabled a great range of attendees from different areas such as education, industry, federal and state, to come together to collaborate on radon.

NREP was able to share

ideas of what has been working for their program and hear solutions to problems from other state programs through different sessions. The United States Environmental Protection Agency's (U.S. EPA) Office of Radiation and Indoor Air was also on hand to give presentations and share information about what is happening at the national level.

NREP made many connections with other state programs and will use these networks to help build a successful program in Nevada. The 19th annual National Radon Conference will be held in September 2009 in St. Louis, MO.



Members of AARST and CRCPD welcomed radon industry and state radon programs at the joint meeting on Monday.

### Conference features "green" campaign

The National Radon Training Conference was a great time for the U.S. EPA to unveil its new radon ad campaign. The "Green Sox" campaign promotes testing homes for radon and building a radon-resistant home as a "greener" and healthier home.

To help share this message, green socks were distributed and worn by presenters, and the new promotional ads were played.

Former National Football League player, Faud Reveiz, is now a builder who utilizes the green campaign by promoting radon-reducing techniques in new construction. He was at the conference to help spread the word about green



The Las Vegas area Radon Team attended the conference on Tuesday. Pictured with Faud Reveiz in front of the Build Green display are Martha Barajas, Megan Long, Susan Roberts and Jill Ukeiley.

building and radon testing.



Nevada was represented by Adrian Howe, Susan Roberts, Megan Long and Frank Flavin (not pictured).



The conference started on Sunday with a work session for state radon programs. Pictured are Frank Flavin, Megan Long and Susan Roberts (Nevada), Justin Otto (North Dakota), and Jim McNeese (Alabama).

# Radon levels reduced at Zephyr Cove school

Parents let out a sigh of relief only a few days before the first day of the new school year, when they were notified that radon levels at Zephyr Cove Elementary School (ZCES) had been brought down to acceptable levels.

The Douglas County School District (DCSD) received technical support from the Nevada State Health Division's Radiological Health section and the Building Technical Capacity (BTC) team of the Conference of Radiation Control Program Directors, Inc. (CRCPD) to address elevated radon concentrations. CRCPD is a non-profit, professional organization of state and local radiation control officials, dedicated to radiation protection. The BTC uses the experiential resources of state radon programs to simultaneously train and assist requesting states when dealing with technical issues.

"In this case, the request from Adrian Howe, Nevada Radiological Health, was to assist in the evaluation of past radon mitigation efforts at ZCES, and to assist DCSD in moving toward robust, effective radon solutions," said William Bell, CRCPD E-25 Committee Chair and BTC leader.

The BTC team included Adrian Howe and Eric Matus of the Nevada State Health Division, Bob Stilwell, Maine Radiological Health Program and George Faggella, California Department of Health Services. Assisted by DCSD's Building Services staff, the group worked over 40 hours in three days trying to figure out the best way to prevent the gas from entering the school.

"They all came together as professionals to help us. They are not even paid employees; they are dedicated scientists who worked closely with our state department of health," DCSD Superintendent Carol Lark said.

**Radon has dropped to safe levels at Zephyr Cove Elementary School**

Students will be able to go back to school here on Wednesday.

**BY NICKY HILLGARDNER**

After a week of work, Zephyr Cove Elementary School is back in session and the school will open its doors to students on Wednesday.

The Douglas County School District received a letter from the state Department of Health and Human Services stating that all test results on the school were half the radon level on Aug. 11. The radon level was 1.5 pCi/l. The radon level at the school was 0.75 pCi/l. The radon level at the school was 0.75 pCi/l. The radon level at the school was 0.75 pCi/l.

Lark received a progress report from Howe on Aug. 11. "Together, we have replaced six marginally functioning radon control systems with new effective radon systems which limit radon entry into the school," said Howe. "In addition, we also designed, installed

and tested five new systems in other areas of the building."

After installing the systems, radon test results revealed that the school's radon problems were solved. All test results were less than the EPA Action Guide of 4 picocuries per liter of air (pCi/l). Further testing is planned during the heating season to evaluate the performance of the installed systems and identify areas needing additional work.

Although the school building's construction was complex, consisting of five crawl spaces, multiple slab on grade foundations, different elevations and multiple heating system types, Bell said it was well suited for the active soil depressurization (ASD) techniques used and he predicts a high probability of success. The strategy of ASD techniques are to reduce radon entry into the occupied space of a structure.

"While at first, the mitigation of elevated radon concentrations at ZCES seems complicated, dividing the problem into smaller pieces and addressing them in logical groups has resulted in substantial progress using reliable strategies," said Bell.

"The EPA test is a test that included one man from Massachusetts and another from California," Lark said. "They all came together on the same day to work on the same problem."



Douglas County: Members of the BTC team included Adrian Howe, Bill Bell, Eric Matus, Bob Stilwell and George Faggella (not pictured).



Pictured is part of one of the radon systems installed at ZCES, showing a magnetic which indicates the static pressure on the system. The instrument is used to indicate that the system is operating properly.

## What happened in Las Vegas...

The Nevada Radon Education Program (NREP) traveled to Las Vegas for the National Radon Conference and used the opportunity to meet with the Southern Area Radon Team. Susan Roberts and Megan Long met with the Clark County team of Jill Ukeiley, Martha Barajas, Chapelle Belcher, Evan Fulton and Sandra Bean, and Mikki Bixler, Southern Nye County. Tools to promote radon testing and awareness, including scroll pens, Nevada Radon Zone maps, bags, and Radon Activity Books were delivered to the educators.

The meeting was productive in canvassing how the counties could best provide educational opportunities to their clientele and ideas were shared for the future success of the radon program in Southern Nevada.



Clark County: Jill Ukeiley, Susan Roberts, Martha Barajas, Chapelle Belcher, Evan Fulton, Mikki Bixler, Sandra Bean and Megan Long (not pictured) plan for program success.

The National Radon Conference attendees were provided a guided tour to the EPA National Laboratory as part of the conference agenda. The Nevada group attending the tour included Evan Fulton, Martha Barajas, Jill Ukeiley, Frank Flavin, Megan Long, Susan Roberts and Adrian Howe. EPA tour guide pictured is Gregg Budd.



## “Living Green at Tahoe” features radon display

The Tahoe Center for Environmental Sciences teamed up with the North Lake Tahoe Demonstration Garden to host a “Living Green at Tahoe” event. The show, aimed at teaching the public sustainable living techniques, invited the Nevada Radon Education Program (NREP) to tell people about the radon health risk and encourage visitors to test their homes.

A radon display was setup in the Demonstration Garden alongside other programs including wildfire defensible space, recycling and invasive weeds. Over 250 people attended the event held on the Sierra Nevada College (SNC) campus in Incline Village.



Incline Village: A radon display was set-up in the beautiful Demonstration Garden at Sierra Nevada College in Incline Village.

Visitors to the table were encouraged to take EPA publications such as *A Citizen's Guide to Radon*, *Building Radon Out* and

the *Home Buyer's and Seller's Guide to Radon*. Free radon test kits were also given out at the event, of which 24% have been used. None of the results have shown high levels of radon.

The event was important for Incline Village residents, as the town is located in the Lake Tahoe Basin, where there is a greater potential for elevated radon levels.

Free radon test kits are still available at the Cooperative Extension office located in Incline Village. For more information, call the Incline Village office at 775-832-4150 or the Nevada Radon Hot Line at 888-RADON10 (888-723-6610).

## Test kits offered at Health and Wellness Fair

Renowned Medical Center sponsored a health fair for Washoe County Employees July 25 at the County Health Department Auditorium. There were many free services offered including blood pressure tests, vision checks and lung function screening, as well as radon test kits.

The radon exhibit provided educational information about the radon health risk and

free test kits were given to 34 people interested in testing their homes.

The Nevada Radon Education Program will provide free short term radon test kits at the next Washoe County Employee Health Fair, to be held Nov. 6 from 7 to 10 a.m., at Regional Animal Services, 2825 Longley Lane. For more information, call the Nevada Radon Hot Line at 888-RADON10.

## Test kits offered at Nevada Fire Summit

University of Nevada and the Living with Fire Program held a Wildland-Urban Interface Fire Summit and invited the Nevada Radon Education Program (NREP) to join vendors in exhibiting educational information. Radon publications and free short-term radon test kits were offered by NREP. Attendees came from all over the state and 31 short-term test kits were provided to those interested in testing their home for radon.



NREP offered radon test kits at the Wildland-Urban Interface Fire Summit held at University of Reno campus.

## NREP makes the rounds to different county offices in Nevada

Megan Long, Radon Education Coordinator, and Susan Roberts, NREP Program Director, traveled to Fallon to meet with Jerry Buk, the Central/Northeast Cooperative Extension area director, and visit the local Extension office. Of the 10 counties located in the Central/Northeast region, six are considered Radon Zone 1 counties on the EPA map of radon zones.

“It is very important that the citizens of these communities be able to hear about the radon health risk, since the chances of a home having elevated radon levels is much higher in Zone 1 areas,” said Susan Roberts, NREP program director. During the meeting, Roberts presented the program’s goals and expectations, as well as discussed how NREP could provide support to the counties.

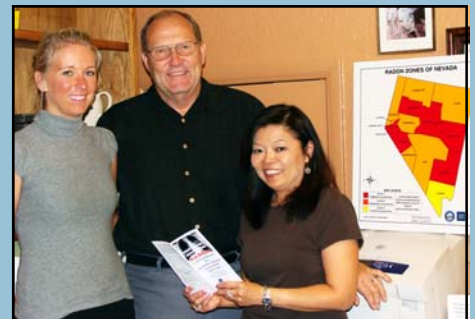
Roberts and Long also visited Pat Whitten at the Churchill County office, providing her with support materials and suggestions for radon education in rural Nevada.

Other offices that NREP visited this quarter included Carson City, Clark,



Churchill County: Susan Roberts, Pat Whitten and Megan Long discuss radon outreach in rural areas.

Douglas and Washoe County’s Incline Village office. Each office was given different promotional items and armed with a wealth of information to use when carrying out programs. With more counties on board, NREP will continue to grow as an important program for Nevada. For information from a UNCE in your area, call NREP at 888-RADON10 (888-723-6610).



Megan Long, Jerry Buk and Susan Roberts discussed radon outreach in the central and northeast area of Nevada.

## Nevada Radon Short-Term Test Results\*

From February 2007 to September 30, 2008

Nevada counties	Carson City		Churchill		Clark		Douglas		Elko		Esmeralda	
Total number of usable tests per county	89		50		183		204		45		0	
EPA Action Level	<4.0	≥4.0	<4.0	≥4.0	<4.0	≥4.0	<4.0	≥4.0	<4.0	≥4.0	<4.0	≥4.0
No. of short-term radon test results	62	27	44	6	175	8	126	78	29	16	0	0
% of homes tested that have high radon levels	30.34%		12.00%		4.37%		38.24%		35.56%			

Nevada counties	Eureka		Humboldt		Lander		Lincoln		Lyon		Mineral	
Total number of usable tests per county	1		10		11		8		64		8	
EPA Action Level	<4.0	≥4.0	<4.0	≥4.0	<4.0	≥4.0	<4.0	≥4.0	<4.0	≥4.0	<4.0	≥4.0
No. of short-term radon test results	0	1	8	2	9	2	5	3	50	14	4	4
% of homes tested that have high radon levels	sample size too small		20.00%		18.18%		37.50%		21.88%		50.00%	

Nevada counties	Nye		Pershing		Storey		Washoe		White Pine		Grand	
Total number of usable tests per county	11		53		4		849		19		1,609	
EPA Action Level	<4.0	≥4.0	<4.0	≥4.0	<4.0	≥4.0	<4.0	≥4.0	<4.0	≥4.0	<4.0	≥4.0
No. of short-term radon test results	11	0	21	32	4	0	697	152	13	6	1,258	351
% of homes tested that have high radon levels	0.00%		60.38%		sample size too small		17.90%		31.58%		21.81%	

\*State data provided by the Nevada State Health Division, AccuStar Labs and Pro Labs. Results based on independently tested homes, not scientific sampling. When known, post-mitigation results are not included and usable results are valid tests, one per home, using an average of multiple tests from the lowest level of the home tested.

## Nevada Radon Long-Term Test Results\*\*

From January 2001 to September 30, 2008

Nevada counties	Churchill		Clark		Douglas		Elko		Lyon		Washoe		White Pine		Grand	
Total number of usable tests per county	1		13		13		1		10		31		6		75	
EPA Action Level	<4.0	≥4.0	<4.0	≥4.0	<4.0	≥4.0	<4.0	≥4.0	<4.0	≥4.0	<4.0	≥4.0	<4.0	≥4.0	<4.0	≥4.0
No. of long-term radon test results	1	0	13	0	9	4	1	0	6	4	21	10	6	0	57	18
% of homes tested that have high radon levels	0.00%		0.00%		30.77%		0.00%		40.00%		32.26%		0.00%		24.00%	

\*\*State data provided by RSSI and AccuStar Labs. Results based on independently tested homes, not scientific sampling. When known, post-mitigation results are not included and usable results are valid tests, one per home, using an average of multiple tests from the lowest level of the home tested.

### Nevada Radon Zone Short-Term Test Result Summary

Zone 1 counties	Total Tests	Tests > 4 pCi/l	% high radon
Carson City, Douglas, Eureka, Lander, Lincoln, Lyon, Mineral, Pershing, White Pine	457	167	36.54%
Zone 2 counties			
Churchill, Elko, Esmeralda, Humboldt, Nye, Storey, Washoe	969	176	18.16%
Zone 3 counties			
Clark	183	8	4.37%

### Nevada Radon Zone Long-Term Test Result Summary

Zone 1 counties	Total Tests	Tests > 4 pCi/l	% high radon
Carson City, Douglas, Eureka, Lander, Lincoln, Lyon, Mineral, Pershing, White Pine	29	8	27.59%
Zone 2 counties			
Churchill, Elko, Esmeralda, Humboldt, Nye, Storey, Washoe	33	10	30.30%
Zone 3 counties			
Clark	13	0	0.00%

## Radon Education Program numbers

UNCE Radon Program	prior to Sep 07	Oct-Dec 07	Jan-Mar 08	Apr-Jun 08	July-Sept 08	Total to date
Radon phone and email inquiries	NA	104	1,920	112	39	2,175
Newspaper/magazine articles	1	34	42	23	6	106
Number of TV reports	NA	3	12	2		17
Number of radio PSAs	NA		5	1		6
Number of radon exhibits	NA	6	31	14	5	56
Direct contacts promoting radon testing and mitigation	NA	413	2,287	559	528	3,787
Radon publications distributed	NA	358	2,028	412	2,947	5,745
Test kits distributed	20	296	1,811	166	1,458	3,751
Homes tested-Short-Term	5	70	775	96	1,223	2,169
Homes tested-Long Term	57	4	11	16	6	94
Schools tested	3	1			2	6
Schools mitigated	3	1			1	5
Homes mitigated	4		19		1	24
Large buildings mitigated					2	2
Homes tested in real estate transaction	1	1	17	7		26
Homes built with RRNC features			4	2	1	7
Number/list of mitigators		3				3



University of Nevada Cooperative Extension

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