

West Central Valley CSD

Radon Testing & Mitigation Plan

A radon safety plan and schedule for our public school district



Created, facilitated and supported by:





Gail Orcutt:
Iowa Teacher and
Radon Warrior
1953–2020
(seen here with her
granddaughter,
Eliana)

The day before her
57th birthday, never-
smoker Gail Orcutt
learned she had lung
cancer.

I wish Gail Orcutt was here to protest the attention of this dedication. I can hear her saying, "Julie, this isn't about me—it's about teaching people to prevent lung cancer in others."

But Gail isn't here. She died of radon-induced lung cancer in 2020. I just have to trust that she somehow knows about the passage of 2022's HF 2412, also known as the Gail Orcutt School Radon Safety Act in her honor (Iowa Code 280.32).

I met Gail after hearing her present at a 2016 EPA Region 7 Radon Stakeholders Meeting. A retired 33-year Iowa teacher, Gail strongly supported the School Radon Training & Support System (SRTSS) my nonprofit organization created at the request of our school members. The SRTSS would not be what it is today without her.

Therefore it is with extreme gratitude that the Energy Association of Iowa Schools (EAIS) Board of Directors and staff remember our friend and colleague, Gail Orcutt. We dedicate this plan to her memory.

Julie Weisshaar, executive director
 Energy Association of Iowa Schools

Assurance

The School Radon Training & Support System® (SRTSS) has been approved by the State of Iowa Health and Human Services department as a Radon Measurement Training Course for Iowa School District Employees, as it meets the requirements of IAC 641-43.8 (136B, 280).

Acknowledgement

The School Radon Training & Support System® (SRTSS) is a hybrid created for school teams to learn how to accurately test their own buildings for radon, based upon information from Energy Association of Iowa Schools staff experience and school district participant input, as well as the following: 1) United States Environmental Protection Agency (EPA) [Managing Radon in Schools/The IAQ Tools for Schools Approach: Key Drivers and Strategies for Success](#) (2010); 2) EPA *Controlling Pollutants and Sources: Indoor Air Quality Design Tools for Schools* (2022); 3) [EPA Radon-Resistant Construction Basics and Techniques](#) (2022); 4) Iowa Department of Public Health Radon Testing Protocols for Iowa Child Care Centers (2022); 5) Radon Mitigation Standards for Schools and Large Buildings (MALB 2014 with 2021 revisions) from The American National Standards Institute (ANSI) and American Association of Radon Scientists and Technologists (AARST); 6) Iowa Administrative Code 641 Chapter 43—Minimum Requirements for Radon Testing and Analysis; 7) Iowa Department of Health and American Lung Association Radon Measurement Guide for Schools Version 2.0; 8) EPA Consumer's Guide to Radon Reduction (2016), and Iowa Code 280.32.

West Central Valley CSD

RADON TESTING & MITIGATION PLAN

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1. Introduction

Student learning and the safety of students, staff and community are priorities for West Central Valley CSD. Our commitment to a quality learning environment includes the provision of radon testing in school buildings on a rotating calendar basis and fixing any elevations, if needed.

West Central Valley CSD complies with State of Iowa Code 280.32 requirements including testing all attendance centers for radon at least once every five years.

West Central Valley CSD also complies with the State of Iowa Department of Health and Human Services licensing requirement for Child Care Centers and Preschools to test for radon every five years. Short term radon tests are performed on a rotating schedule and are completed by trained district staff.

Why is radon testing and mitigation important? The United States Surgeon General issued a Health Advisory in 2005 that explained: “Radon is the second leading cause of lung cancer in the United States and breathing it over prolonged periods can present a significant health risk to families all over the country. *It’s important to know that this threat is completely preventable.* Radon can be detected with a simple test and fixed through well-established venting techniques.”

In the event that elevated levels of radon during normally occupied hours are found in a **West Central Valley CSD** building, steps will be taken to correct the issue using methods suggested by the United States Environmental Protection Agency (EPA) and in accordance to the *School Radon Training & Support System Flow Chart* (Appendix A).

This **West Central Valley CSD School Radon Testing and Mitigation Plan** shares our:

- 1) Plan for short-term radon testing at each attendance center under our control at least once by July 1, 2027, and at least once every five years thereafter
- 2) Schedule for short-term tests for radon at each attendance center
- 3) Location for testing results publication
- 4) Training completed to accurately measure radon levels in school buildings,
- 5) Details on how a radon mitigation plan will be developed, if necessary

SRTSS collaborators have included the following: Dr. Bill Field, University of Iowa College of Public Health; Gail Orcutt, radon-induced lung cancer warrior; past grant funding support from the Iowa Cancer Consortium; the Iowa Department of Public Health and Healthy Homes Radon Education and Consulting.

2. School Radon Training & Support System

This plan is part of the overall School Radon Training & Support System (SRTSS) in which West Central Valley CSD has chosen to participate. Energy Association of Iowa Schools (EAIS) created and facilitates the SRTSS. This support system was created in 2015 and has continuously improved every year since, based upon the collaborative learning of EAIS and participating schools.

The SRTSS provides us with continuous education and coaching, and gives us the tools and ongoing support we need to save budget dollars by doing our own short term radon testing. It includes:

1. Kickoff Workshops to educate our school spokesperson/superintendent and radon test coordinator/facilities manager. *(Practical trainings focused on initial radon testing. This basic training is in no way meant to replace the specialized education required of radon experts who receive payment for testing as a profession.)*
2. Performing radon testing in our school buildings ourselves during the winter schedule we set at the Kickoff Workshop. The EAIS radon team members coach us throughout the testing.
3. EAIS compiling our confidential radon test results data, analyzing and reporting the results to us, tracking our progress, and providing ongoing support. EAIS helps us interpret the results and decide if further testing and/or corrective measures to reduce radon levels is necessary.
4. Repeating the process per our Radon Testing Rotation Calendar, Iowa Code 280.32 requirements, and State of Iowa Department of Health and Human Services licensing requirements for Child Care Centers and Preschools.

3. Our Radon Plan at a Glance

With the help of EAIS and the SRTSS, we have assigned roles and responsibilities for quality assurance and strategically determined where and when to screen for radon in our school district.

3.1 West Central Valley CSD Radon Team + Questions/Inquiries

Questions regarding this School Radon Testing and Mitigation Plan may be directed to:

Administrative office address: 3299 White Pole Rd, Stuart, IA, 50250

School district phone: (515) -52-3-2187

Superintendent / District Spokesperson: Rusty Shockley

Facilities Manager / Radon Test Coordinator: Don Van Winkle

3.2 West Central Valley CSD Buildings and Locations

Dexter Elem
803 Washington St, Po Box 157
Dexter, IA 50070

Middle School
1375 High St, P.O. Box B
Redfield, IA 50233

Stuart Elem
320 N.E. 3rd St
Stuart, IA 50250

High School
3299 White Pole Rd, Po Box 550
Stuart, IA 50250

3.3 West Central Valley CSD Radon Testing Rotation Calendar

School Year	Buildings Scheduled
2025-2026	Stuart Elementary, Dexter Elementary
2026-2027	High School, Middle School
2027-2028	
2028-2029	
2029-2030	
2030-2031	Stuart Elementary, Dexter Elementary
2031-2032	High School, Middle School
2032-2033	
2033-2034	
2034-2035	
2035-2036	
2036-2037	
2037-2038	

Note: Schedule is subject to change

4. Radon Basics

4.1 What is Radon?

Radon is a naturally occurring radioactive gas that is colorless, odorless, and tasteless. It comes from the natural breakdown or decay of uranium, which is found in soil and rock all over the United States and the world.

Radon travels through the ground and into the air above, entering buildings through cracks and other holes in the foundation. Every building has the potential for unsafe levels of radon. If radon becomes trapped inside, it can build up and become a health safety problem in buildings.

Radon decays into radioactive particles that can become trapped in lungs, releasing small bursts of radiation. This radiation may damage the body's DNA and lung tissue, and lead to an increased risk of lung cancer over the course of a person's lifetime.

The higher the level of radon and the longer the exposure, the greater the risk.

Because radon is colorless, odorless, and tasteless, the only way to know if radon is present is to test for it.

4.2 Health Effects

Prolonged exposure to elevated radon concentrations causes an increased risk of lung cancer. The decay products resulting from radon are the leading cause of lung cancer among non-smokers in the United States.

The EPA ranks radon in the highest classification of cancer-causing substances: Group A: Known human carcinogen. Scientists are more certain about radon risks than risks from most other cancer-causing substances due to various studies of cancers in humans, such as the underground miner study and more recent epidemiological studies (National Cancer Institute).

All major health organizations agree that radon causes thousands of preventable lung cancer deaths every year. It is estimated that 22,000 lung cancer deaths in the United States are related to radon. The U.S. Surgeon General has warned that radon is the second leading cause of lung cancer deaths—only smoking causes more.

However, not everyone who breathes radon decay products will necessarily develop lung cancer. An individual's risk of getting lung cancer from radon depends on three factors: 1) Level of radon, 2) Duration of exposure, and 3) Other cancer risk factors, such as smoking combined with radon exposure.

4.3 Acceptable Level of Radon

There is no “acceptable level” of radon. However, the EPA has established 4 picocuries per liter of air (pCi/L) as the United States “Action Level” at which a plan should be made to correct elevated radon levels.

If needed, radon mitigation contractors will work to reduce radon levels to as low as reasonably achievable. Reducing levels to zero is likely impossible, as radon exists even in outdoor air at a level of about 0.4pCi/L.

A single test result should not be the basis for determining if action needs to be taken to reduce radon levels. If initial screening results indicate the radon level in a room is 4 pCi/L or greater, follow-up testing is recommended first.

Any exposure to radon carries some risk, but the lower the exposure—in terms of time and concentration—the lower the risk.

4.4 Radon Exposure

The Environmental Protection Agency (EPA) considers the entire state of Iowa to be a high-risk zone for radon gas.

For most students and staff, the largest contributor to radon exposure is in the home. This is because people typically spend more time at home than anywhere else. Parents and staff are encouraged to test their homes for radon and to take action to reduce elevated concentrations.

The second largest contributor to radon exposure for most students and staff is school. An EPA nationwide survey of radon levels in schools estimated that nearly one in five schools has at least one room with a short-term radon level above the action level of 4.0 pCi/L.

According to an *EPA Assessment of Risks from Radon in Homes*, the lifetime risk of lung cancer deaths if 1,000 people who never smoked were exposed to 4.0 pCi/L over a lifetime, about seven people could get lung cancer. The risk of cancer from radon exposure compares to the risk of dying in a car crash. It is important to fix homes and schools if they have elevated radon levels.

4.5 How Radon Gets Indoors

No matter how old or new, every building has the potential for elevated levels of radon. Radon gas moves upward through cracks and other openings in the foundations of buildings from the soil below. Concentrations can vary based on source strength and soil permeability.

Radon levels are tested closest to its source—the ground. This means testing should occur in the lowest occupied space of a building and other areas in contact with soil, such as upper levels with foundation walls against a hill or berm.

Many schools are constructed on adjoining floor slabs, which permit radon gas to enter through construction and expansion joints between the slabs. Other features, such as basements, crawl spaces, utility tunnels, sub-slab HVAC ducts, cracks, hollow masonry walls that penetrate the floor, and other penetrations in the slab (e.g., around pipes) are also places where radon can enter a building.

Also, air pressure inside a building is sometimes lower than pressure in the soil under the foundation. Because of this difference in pressure, a building can act like a vacuum, drawing radon inside from the soil.

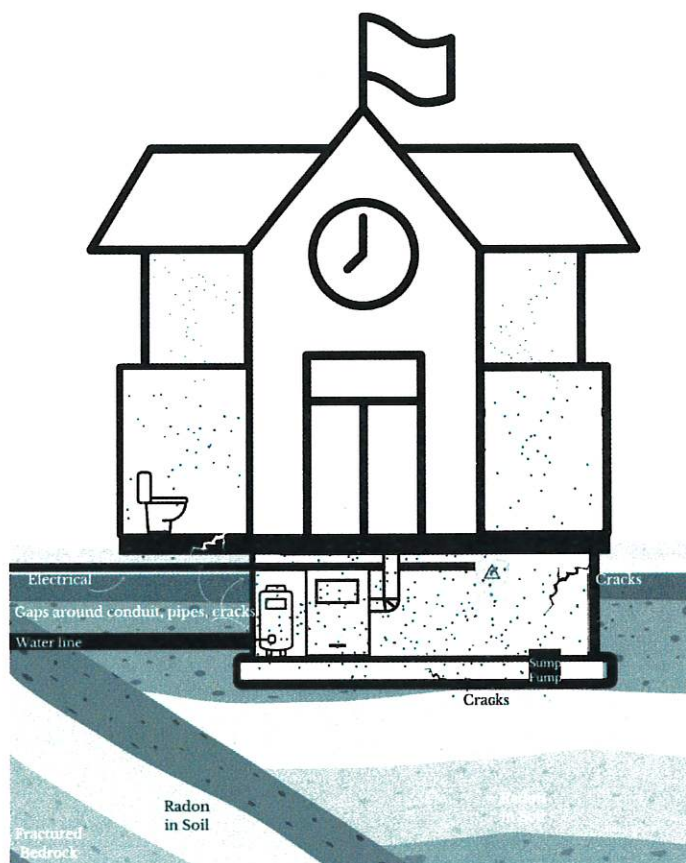


Figure 1: How radon enters a building

4.6 Keeping Radon Out of Buildings

The best kind of radon is the radon that never enters a building. Radon-resistant construction techniques are required by Iowa law for new school construction and should be discussed with architects during the planning stages. Energy Association of Iowa Schools is also available to assist in discussions. Including these features at the time of construction can be much easier and less expensive than after a structure is complete.

According to the EPA, while the techniques may vary for different school foundations and building site requirements, five basic features should be included to prevent radon from entering buildings:

1. **Gravel:** Include a four-inch layer of clean, coarse gravel below the foundation. This layer of gravel will allow naturally occurring soil gases, which includes radon, to move freely underneath the building.
2. **Vapor Retarder:** Place on top of the gravel to prevent the soil gases from entering. (The vapor retarder also keeps the concrete from clogging the gravel layer when the slab is poured.)
3. **Vent Pipes:** Install appropriate number of three-inch or four-inch solid PVC Schedule 40 pipes from the gravel layer and through the building's conditioned space and roof to safely vent radon and other soil gases outside above the building. A radon fan can be installed later, if necessary, to also depressurize the space below the slab.
4. **Sealing and Caulking:** Seal all openings, cracks, and crevices in the concrete foundation floor (including the slab perimeter crack) and walls with polyurethane caulk to prevent radon and other soil gases from entering.
5. **Junction Box:** Install electrical junction boxes on the roof for use with a vent fan if, after testing for radon, an active radon mitigation system is necessary.

5. Testing for Radon

So if the only way to know if radon is present is to test, how do schools test?

There are three types of radon testing: 1) Short-term testing, 2) Long-term follow-up tests, and 3) Continuous radon monitoring. Because most schools would like test results within a few weeks, and there is a large possibility of more than 10% of test kits disappearing if deployed long-term (90+ days), **short-term testing has been determined the best place for schools to begin.**

5.1 Our Short-Term Test Kit

It is critical that all devices used for measuring radon in schools meet the EPA's Radon Measurement Proficiency Program (RMP) or State certification program requirements. We utilize short-term radon test kits from the Iowa-certified radon laboratory, Air Chek, Inc.

The test kit, itself, is not harmful in any way. It is an envelope containing a packet of activated charcoal. The kits are passive devices requiring no power to function.

For quality assurance, chain of custody protection, and data tracking purposes, test kits are purchased by Energy Association of Iowa Schools and are provided to school districts participating in the SRTSS.

Figure 1. Air Chek Activated Charcoal Radon Test Kit



5.2 Who Will Do the Testing?

EAIS has provided our school district personnel listed on Page 3 with the basic radon training needed to perform accurate radon testing ourselves. Our staff are already familiar with the layout(s), construction type(s), and HVAC system(s) of our school buildings, and are well qualified to conduct initial radon screenings.

In Iowa public schools, district employees that have completed a school radon testing training program approved by the Department of Education and the Department of Health and Human Services may conduct radon testing for their employing school district. SRTSS has been approved by the State of Iowa Department of Health and Human Services as a Radon Measurement Training Course for Iowa School District Employees, as it meets the requirements of IAC 641-43.8(136B,280).

5.3 Where Will Our School Test?

Per EPA recommendations, radon tests are conducted in all frequently occupied spaces that are in contact with the ground and immediately above unoccupied (and therefore untested) spaces that are in contact with the ground, such as crawl spaces, tunnels, and mechanical rooms.

Frequently occupied rooms include classrooms, break rooms, offices, gymnasiums, auditoriums, and cafeterias. Areas such as storage rooms, stairwells, rest rooms, utility closets, kitchens, elevator shafts, or hallways need not be tested.

SRTSS also advises schools to test spaces that may not be currently occupied but could be appropriate for occupancy in the future. This gives us the flexibility to relocate a classroom or office if necessary. These additional screenings could also help with diagnostic testing if elevated levels of radon are found in other spaces close by.

5.4 When We Will Test

Short-term radon testing is done during regularly occupied weekdays under closed building conditions when heating, ventilation, and air conditioning (HVAC) systems

are operating normally. It is important that we measure radon levels during normal, everyday use and activity while students and staff are in our buildings.

Winter months are the best time to test for radon in Iowa because closed-building conditions can be easily maintained, and windows and exterior doors are more likely to remain closed. Quality radon testing should be done during a building's normal operating conditions—which in Iowa's Climate Zones 5 and 6 means when the heating system is operating with no variance in outdoor air ventilation. Also, school buildings are more regularly occupied during winter months.

When we will NOT test:

- 1) During structural changes to a building and/or renovation or replacement of the HVAC system.
- 2) During major weather events such as *sustained* high winds (30 mph or more), excessive rain or snow, and/or 3/4-inch hail. Rapid changes in barometric pressure can also affect radon levels. These events can affect the level of radon in a building and skew test results.

5.5 Deploying and Retrieving Test Kits

In order to gain accurate results, it is important that short term radon test kits be correctly deployed and retrieved. Kits must be placed within the breathing zone of each occupiable room in contact with ground, using one test device per 2000 square feet of open space. There must be closed building conditions during the entire time of deployment.

Test kits must not be touched or disturbed in any way once they are placed. After being exposed for the SRTSS *School Radon Test Week Timetable* of 96 hours, each kit will be retrieved and sent to the lab for analysis.

5.6 Quality Control

For Quality Control purposes, the following will be incorporated into our testing:

- 5% field blanks + 10% duplicates
- Closed building conditions

- Open and routine communications
- Chain of Custody and Datalogs
 - Identifying who will be handling test kits and test data is an integral element to achieving quality results and preventing costly errors that could require retesting.

6. Test Results

Once initial testing has been completed and results have been returned to us by EAIS/SRTSS, the *Iowa School Radon Training & Support System Flow Chart* will inform what needs to be done next for the safety of our students, staff, and community.

For any test result at or above the EPA's action level of 4.0 pCi/L, EAIS will coach us through the next steps of potential corrective measures and follow-up testing. Every consideration will be taken into account to determine the potential risk to our students and school staff.

It is important to note that radon levels can vary daily, seasonally, and annually; therefore, we will incorporate a strategic testing cycle to best characterize school year levels.

Iowa Code 280.32 requires public school districts to "publish testing results on the district's internet site in a timely manner." EAIS provides us with an official *School District Radon Testing Report* to post on our website.

7. Fixing Any Elevated Levels

Radon reduction works and is not too costly. If the results of any spaces average at or above 4 pCi/L following a second radon test, EAIS will coach us through the process of finding a radon mitigator licensed in the State of Iowa to help us fix the elevation. A qualified radon contractor can study the radon problem and help us pick the right mitigation method.

If simpler corrective measures do not fix a radon elevation, techniques that prevent the entry of radon are advised. Active subslab suction—also called subslab depressurization—is the most common and usually the most reliable radon

reduction method. This is where one or more suction pipes are inserted through the floor slab into the crushed rock or soil underneath. They also may be inserted below the concrete slab from outside the building.

The number and location of suction pipes needed to fix the indoor radon elevation depends on how easily air can move in the crushed rock or soil under the slab and on the strength of the radon source. Often, only a single suction point is needed. A radon vent fan connected to the suction pipes draws the radon gas from below the building and releases it into the outdoor air while simultaneously creating a negative pressure or vacuum beneath the slab.

Sealing foundation cracks and other openings makes this kind of system more effective and cost-efficient. Radon contractors can use other methods that may also work in our school. The right system depends on our building design and other factors.

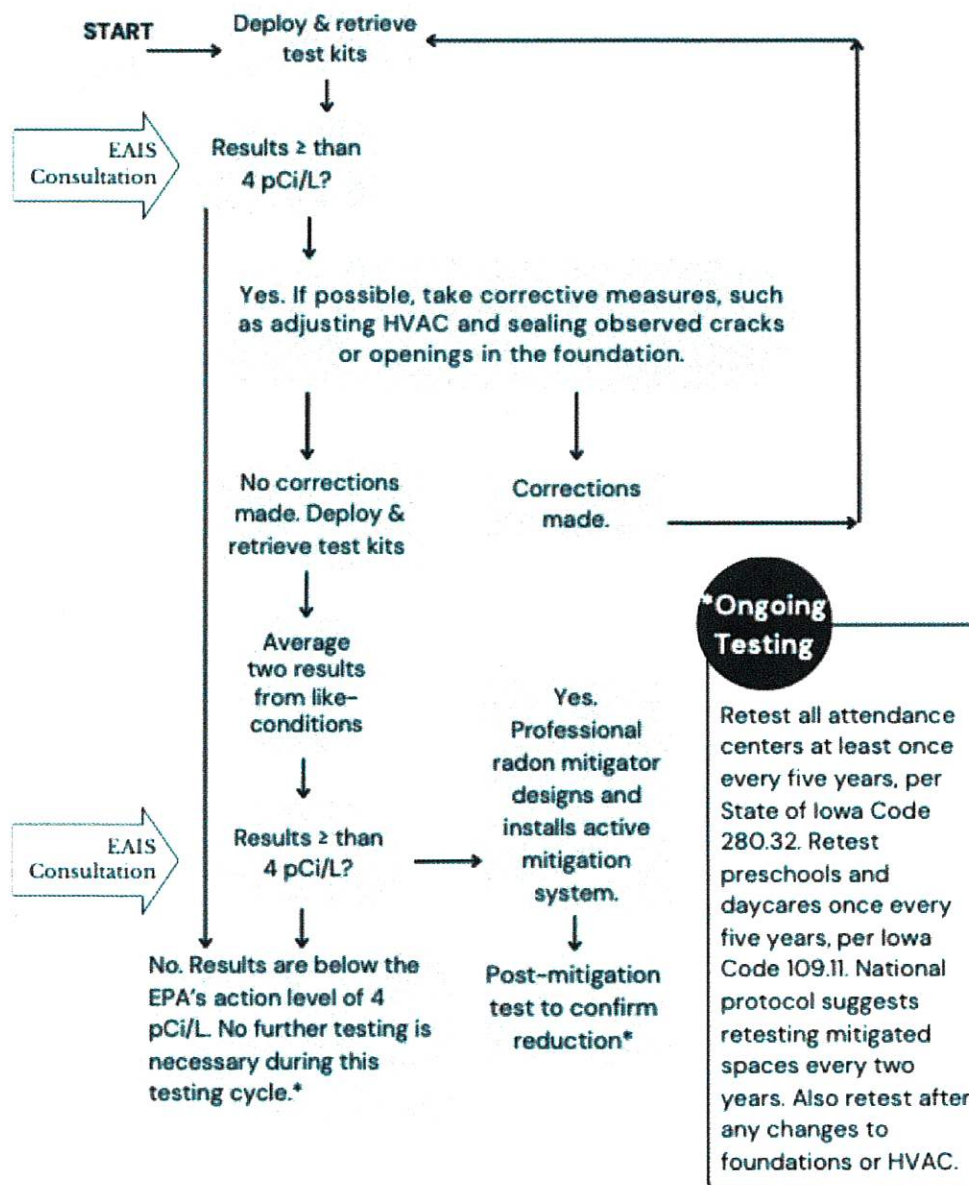
8. Communication

Communication will occur at all phases of our school radon testing to minimize misinformation and unnecessary anxiety regarding radon testing, including, but not limited to:

- 1) Informing building principals and district staff about radon testing and the importance of proper testing conditions (See sample Talking Points, news releases, and memos behind the Action Plan tab of this plan)
- 2) Informing board and parents (if applicable) about radon testing
- 3) Making the superintendent/district spokesperson available and accessible to answer questions from community and staff
- 4) Making the radon test coordinator/facilities manager and building principal available and accessible to answer questions from staff and students
- 5) Communicating test results to staff, school board and parents after all phases of testing are completed and explaining what, if any, further testing or corrective measures/mitigation will be done
 - a. Communication tools will vary based upon audience
 - b. Final summary of radon testing will be posted on our school district website
- 6) Encouraging staff, school board and parents to screen their own homes for radon

Appendix A: SRTSS® Flow Chart

School Radon Training & Support System® Flow Chart



Appendix B: IA Code Ch. 109: Childcare Centers (& preschools)

IAC

Ch 109, p.1

441—109.11(237A) Physical facilities.

109.11(1) Room size. The program room size shall be a minimum of 80 square feet of useable floor space or sufficient floor space to provide 35 square feet of useable floor space per child. In rooms where floor space occupied by cribs is counted as useable floor space, there shall be 40 square feet of floor space per child. Kitchens, bathrooms, halls, lobby areas, storage areas and other areas of the center not designed as activity space for children shall not be used as regular program space or counted as useable floor space.

109.11(2) Infants' area. An area shall be provided properly and safely equipped for the use of infants and free from the intrusion of children two years of age and older. Upon the recommendation of a child's physician or the area education agency serving the child, a child who is two years of age or older with a disability that results in significant developmental delays in physical and cognitive functioning who does not pose a threat to the safety of the infants may, if appropriate and for a limited time approved by the department, remain in the infant area.

109.11(3) Facility requirements.

a. The center shall ensure that:

(1) The facility and premises are sanitary, safe and hazard-free.

(2) Adequate indoor and outdoor program space that is adjacent to the center is provided. Centers shall have a safe outdoor program area with at least sufficient square footage to accommodate 30 percent of the enrollment capacity at any one time at 75 square feet per child. The outdoor area shall include safe play equipment and an area of shade.

(3) Sufficient program space is provided for dining to allow ease of movement and participation by children and to allow staff sufficient space to attend to the needs of the children during routine care and emergency procedures.

(4) Sufficient lighting shall be provided to allow children to adequately perform developmental tasks without eye strain.

(5) Sufficient ventilation is provided to maintain adequate indoor air quality.

(6) Sufficient heating is provided to allow children to perform tasks comfortably without excessive clothing.

(7) Sufficient cooling is provided to allow children to perform tasks without being excessively warm or subject to heat exposure.

(8) Sufficient bathroom and diapering facilities are provided to attend immediately to children's toileting needs and maintained to reduce the transmission of disease.

(9) Equipment, including kitchen appliances, placed in a program area is maintained so as not to result in burns, shock or injury to children.

(10) Sanitation and safety procedures for the center are developed and implemented to reduce the risk of injury or harm to children and reduce the transmission of disease.

b. Approval may be given by the department to waive the outdoor space requirement for programs of three hours or less, provided there is suitable substitute space and equipment available.

c. Approval may be given by the department for centers operating in a densely developed area to use alternative outdoor play areas in lieu of adjacent outdoor play areas.

d. The director or designated person shall complete and keep a record of at least monthly inspections of the outdoor recreation area and equipment for the purpose of assessing and rectifying potential safety hazards. If the outdoor play area is not used for a period of time due to inclement weather conditions, the center shall document the reasons why the monthly inspection did not occur and shall complete and document an inspection prior to resuming use of the area.

e. Centers that operate in a public school building, including before and after school programs and summer programs serving school-age children, may receive limited exemption from a facility requirement at subrule 109.11(3), particularly relating to ventilation and bathroom facilities, if complying with the requirement would require a structural or mechanical change to the school building. Centers shall ensure that the space occupied by the center is sanitary, safe, and hazard-free and shall

conduct monthly playground inspections or provide documentation that one has been completed by the public school personnel.

109.11(4) Bathroom facilities. At least one functioning toilet and one sink for each 15 children ages two years and older shall be provided in a room with natural or artificial ventilation. Training seats or chairs may be used for children under two years of age. New construction after November 1, 1995, shall provide for at least one sink in the same area as the toilet and, for centers serving children two weeks to two years of age, shall provide for at least one sink in the central diapering area. At least one sink shall be provided in program rooms for infants and toddlers or in an adjacent area other than the kitchen. New construction after April 1, 1998, shall have at least one sink provided in the program rooms for infants and toddlers.

109.11(5) Telephone. A working nonpay telephone shall be available in the center with emergency telephone numbers for police or 911, fire, ambulance, and poison information center posted adjacent to the telephone. The street address and telephone number of the center shall be included in the posting. A separate file or listing of emergency telephone numbers for each child shall be maintained near the telephone.

109.11(6) Kitchen appliances and microwaves. Gas or electric ranges or ovens shall not be placed in the program area. If kitchen appliances are maintained in the program area for food preparation activities, the area shall be sectioned off and shall not be counted as useable floor space for room size. Centers using microwave ovens for warming infant bottles or infant food shall ensure that the formula or food item is not served immediately to the child after being removed from the microwave. The infant bottle shall be shaken or food stirred and the formula or food item tested by the caregiver before being fed to the infant. Breast milk shall not be warmed in a microwave.

109.11(7) Environmental hazards.

a. Within one year of being issued an initial or renewal license, centers operating in facilities built prior to 1978 shall conduct a visual assessment for lead hazards that exist in the form of peeling, cracking or chipping paint or painted surfaces in need of repair. If these lead hazards are found, it shall be assumed that lead-based paint is present on the surfaces, and the surfaces shall be repaired by an Iowa certified lead-safe renovator before a full license will be issued.

b. Within one year of being issued an initial or renewal license, centers operating in facilities that are at ground level, use a basement area as program space, or have a basement beneath the program area shall have radon testing performed as outlined in a nationally recognized radon measurement protocol. If testing determines confirmed radon gas levels in excess of 4.0 picocurie per liter, radon mitigation procedures shall be developed.

(1) If radon mitigation is in place, retesting shall occur at least every two years from initial measurements to confirm radon gas levels are below 4.0 picocurie per liter.

(2) If initial testing confirmed radon gas levels are below 4.0 picocurie per liter, retesting shall occur at least every five years from initial measurements.

c. To reduce the risk of carbon monoxide poisoning, all centers shall, on an annual basis prior to the heating season, have a professional inspect all fuel-burning appliances, including oil and gas furnaces, gas water heaters, gas ranges and ovens, and gas dryers, to ensure the appliances are in good working order with proper ventilation. All centers shall install one carbon monoxide detector on each floor of the center that is listed with Underwriters Laboratory (UL) as conforming to UL Standard 2034.

d. Centers that operate before and after school programs and summer-only programs that serve only school-age children and that operate in a public school building are exempted from testing for lead and carbon monoxide.

e. Centers that operate before and after school programs and summer-only programs that serve only school-age children and that operate in a public school building are required to follow radon testing requirements outlined in Iowa Code section 280.32 as enacted by 2022 Iowa Acts, House File 2412, section 1.

[ARC 6023C, IAB 11/3/21, effective 1/1/22; ARC 6564C, IAB 10/5/22, effective 10/1/22; ARC 6626C, IAB 11/2/22, effective 3/1/23]

Appendix C: IA Code Ch. 280.32: Uniform School Requirements

1

UNIFORM SCHOOL REQUIREMENTS, §280.32

280.32 Radon testing and mitigation.

1. For purposes of [this section](#), “short-term test” means a test using a device that remains in an area for two to seven days to determine the amount of radon in the air.
2. The board of directors of each public school district shall establish a radon plan and schedule for short-term tests for radon gas to be performed at each attendance center under its control at least once by July 1, 2027, and at least once every five years thereafter. Each school district shall publish testing results on the district’s internet site in a timely manner.
3. Radon testing pursuant to [this section](#) conducted on and after July 1, 2022, shall be conducted by a person certified to conduct such testing pursuant to [section 136B.1](#) or by district employees that have completed a school radon testing training program approved by the department of education and the department of health and human services. District employees that have completed training shall not perform testing services in locations other than the employee’s employing district. The department of health and human services shall maintain and make available to school districts a list of such approved school radon testing training programs. Testing shall be based on recognized national standards that outline school radon testing practices.
4.
 - a. If the results of a short-term test at an attendance center are at or above four picocuries per liter, the board of directors of the public school district shall conduct a second short-term test for radon gas and radon decay products in the spaces with elevated results within sixty days of the first test.
 - b. If the averaged results of the first and second tests at an attendance center pursuant to paragraph “a” are at or above four picocuries per liter, the board of directors of the public school district shall retain or employ a person credentialed pursuant to [section 136B.1](#) to develop a radon mitigation plan that may include further diagnostic testing, corrective measures, and active mitigation. The board shall complete the radon mitigation plan within two years of the first test. A district is not required to mitigate radon at an attendance center if the district intends to abandon the building within five years or has a plan to renovate the attendance center within five years and the renovation will include radon mitigation.
5. All new school construction shall incorporate radon resistant construction techniques.
6. In consultation with appropriate stakeholders and the department of education, the department of health and human services shall adopt rules to administer [this section](#).

[2022 Acts, ch 1097, §1, 4; 2023 Acts, ch 19, §1043](#)

Referred to in [§423F.3](#)

For provisions relating to certain funding for radon testing, see [§423F.3\(3\)\(a\)](#)

Appendix D: EAIS Training Approval Letter

STATE OF IOWA DEPARTMENT OF
Health AND Human
SERVICES

Kim Reynolds
GOVERNOR

Adam Gregg
LT. GOVERNOR

Kelly Garcia
DIRECTOR

July 7, 2023

Julie Weisshaar, Executive Director
Energy Association of Iowa Schools
1735 Kingfisher Ave
Creston IA 50801

RE: Approval of Radon Measurement Training Course for Iowa School District Employees

Dear Ms. Weisshaar

The agency has reviewed your application packet for offering the above referenced training course and find it meets the requirements of IAC 641-43.8(136B,280) and is therefore approved.

Course Name: School Radon Training & Support System

Iowa HHS Course Number: SCHT00002

The above course name and Iowa HHS course number shall be used when advertising this course and on the course completion certificate.

As a reminder, you are required to provide a course completion certificate that contains, at minimum, the following information; name of the student, the name of the course, Iowa HHS course ID number, name of the course provider, course date(s), number of hours, and the signature and typed name of the training provider(s).

This course availability will be posted on the agencies website and provided to the Iowa Department of Education for dissemination to Iowa school districts.

Please contact me if you have any questions or if you withdraw the availability of this course.

Sincerely,



Randall P. Lane, Radon Program Coordinator
Bureau of Radiological Health
Division of Public Health
(515) 281-4928
randy.lane@idph.iowa.gov

Lucas State Office Building • 321 E 12th St • Des Moines, IA 50319-0075
www.hhs.iowa.gov • 515-281-7689

Notice to Participants – Disclaimer 1

Radon testing is the first step in knowing if radon mitigation is needed. This guidance does not cover specifics on how to reduce radon or actively mitigate radon in buildings that have elevated radon levels.

According to the EPA, radon can be reduced either by pressurizing and increasing ventilation in the building or venting radon from beneath the building's slab. The School Radon Training & Support System can help put participating schools in contact with the professionals needed to assist with HVAC adjustments, foundation inspection and repair, and, if necessary, active mitigation systems.

Notice to Participants – Disclaimer 2

This training and support system was prepared with due diligence as a compilation of work based on the most recent national radon standards published by the United States Environmental Protection Agency, American National Standards Institute, State of Iowa radon code, Title IV – Public Health, Subtitle 2 – Health-Related Activities, Chapter 136b – Radon Testing, and Iowa Department of Education recommendations. Neither the United States Environmental Protection Agency, Energy Association of Iowa Schools, Healthy Homes Radon Education, Inc. nor any affiliated organization, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process or service by trade name, trademark manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Environmental Protection Agency, Energy Association of Iowa Schools, Healthy Homes Radon Education, Inc. nor any affiliated organization. The views and opinions of authors expressed herein do not necessarily state or reflect those of Energy Association of Iowa Schools, Healthy Homes Radon Education, Inc. or any affiliated organization.