



LOGOS PUBLIC CHARTER SCHOOL

Innovative Education Kindergarten to Career

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Logos Health and Safety Plan

What is it and why is it dangerous? Radon comes from natural deposits of uranium in the soil. It is colorless, odorless, and tasteless. The uranium decays into radium that further breaks down into radon gas. The gas moves up through the soil, allowing it to enter buildings in contact with the ground through cracks and openings in the foundations and under structure. The gas becomes dangerous once it is dispersed into the air and begins the radioactive decay process. The decay process leads to the release of energy particles that can strike and damage lung tissue when inhaled. Radon is the number one cause of lung cancer among non-smokers. Although no amount of radon is safe, steps can be taken to reduce its potential for harm. School buildings are the second leading source of radon exposure for students and school employees beyond individual homes.

What is the risk in Southern Oregon? There are several variables that contribute to indoor radon levels. Weather, season, geology, type of construction and heating, ventilation and air conditioning systems can all be contributing factors. The Southern Oregon area is rated low in terms of radon gas risk; however, the rating is no substitute for testing. The only way to know if a building has radon is to test. Oregon Public Health Division recommends that ALL residences be tested for radon regardless of the risk levels assigned to the geographic locations.

What are the current requirements? House Bill (HB) 2931 led to ORS 332.166-167 which directed the Oregon Health Authority (OHA) to provide guidance on radon testing in schools. Testing of schools must be complete no later than January 1, 2021. At a minimum, testing should occur every 10 years. Testing must occur in all frequently occupied rooms in contact with the soil or located above a crawl space or a basement.

The E.P.A.'s recommended action level is 4.0 pCi/L. This is not a health based number. Outdoor radon levels across the country average .4 pCi/L. It is not possible to reduce the risk to zero. This is a recommended action level to help reduce radon levels proactively.

*pCi/L = pico curies per liter of air. A "pico Curie" is one-trillionths of a Curie. A Curie is equivalent to 37 Billion radioactive disintegrations per second. Therefore, one pico-Curie works out to 2.2 radioactive disintegrations per minute (dpm) in a liter of air.

Testing - Research has shown that results can vary greatly from room to room. Spot testing is not effective or recommended. A minimum of one detector for every 2,000 square feet of open floor space is required.

What should be tested? Regional ground floor level offices, classrooms, assembly room, and conference rooms.

What should not be tested initially? Restrooms, hallways, kitchen, and utility closets.

How do we test? For initial measurements, we will utilize alpha-track radon test kit with a measurement of 14+ days. When complete, these devices will be sent to the lab within two days.

Quality Assurance Steps We Will Implement:

Duplicates – Placed in the same location to determine variances. Duplicates should be in 10% of the rooms and a minimum of one per building.

Blanks – Placed alongside opened detectors but immediately sealed up. They are designed to detect manufacturing, storage, and/or shipping issues that may have influenced accuracy. They should come back at/close to 0.0 pCi/L. Blanks should be in 5% of the rooms and a minimum of one per building.

Spikes – Evaluate accuracy of detectors supplied and the lab. A spike is a kit sent to another lab that exposes kits to known levels of radon. They are then sent back to the school and included (unmarked) in the samples sent to the testing lab. Spikes should be 3% of the rooms tested at a site.

How Do We “Fix” It? Solutions depend on the specific situation; however, adjusting HVAC systems, soil depressurization, building pressurization, sealing entry routes, zone specific ventilation or a combination of the above may be utilized as possible courses of action to remedy an area with elevated levels.

If a result comes back greater than .0 pCi/L, then the E.P.A. recommends follow up testing before any mitigation decisions are made. The average between the initial and the follow up test will be utilized.

What does testing at Logos Public Charter School look like? Planning and preparation will be critical to a successful test cycle. In terms of testing considerations, we will do testing under “closed building conditions” (windows and doors closed) with HVAC systems on. We will test during winter break when test kit disruption may be avoided. We will need to coordinate with a lab and consider their availability to send us the spike kits back toward the end of our test cycle so that they can be included in the samples submitted. We will test Logos Public Charter School by January 2020. We will communicate the specifics of the schedule and plan with students and families as soon as it has been established. We will have follow up radon testing every 10 years (beginning in 2030).

We will use a test kit placement log and school floor plan to annotate all test kit locations by serial number. Test kits will meet the current requirements of the National Radon Proficiency Program (NRPP) www.nrpp.info and/or the National Radon Safety Board (NRSB) www.nsrp.org.

Test kits will be placed:

- a. Where they are least likely to be disturbed.
- b. At least three feet from doors, outside windows, and ventilation ducts.
- c. At least one foot from exterior walls.
- d. Between 20 inches and six feet from the floor.
- e. Every 2,000 square feet for large spaces.

*Kits can be placed on teacher’s desks or a bookshelf to prevent tampering. They can also be suspended from a wall or ceiling as long as they meet the above requirements.

Test kits will not be placed:

- a. Near drafts resulting from heating, ventilation vents, air conditioning vents, fans, doors or windows.
- b. In direct sunlight.
- c. In areas of high humidity, such as bathrooms, kitchens, etc.

Results – We will maintain transparency throughout the testing process, and we will post the test results on the school website.

References – We will continue to utilize guidance published in Testing for Elevated Radon in Oregon Schools (2016) by the Oregon Health Authority for testing procedures and protocols.