#### 216-RICR-50-15-2

# TITLE 216 - DEPARTMENT OF HEALTH

#### **CHAPTER 50 – ENVIRONMENTAL HEALTH**

## **SUBCHAPTER 15 – HEALTHY ENVIRONMENT**

PART 2 - Radon Control

# 2.1 Authority

These regulations are promulgated pursuant to the authority conferred under R.I. Gen. Laws §§ 23-61-4(8) and 23-61-7(b), and are established for the purpose of protection of human health and prevention of exposure to elevated concentrations of radon.

# 2.2 Applicability

These regulations provide for the detection of radon and radon progeny hazards in buildings, for the safe mitigation of those hazards, and for the licensing and/or certification of the persons who engage in radon activities.

# 2.3 Definitions, General Provisions, and Radon Standards

#### 2.3.1 Definitions

- A. Whenever used in these rules and regulations, the following terms shall be construed as follows:
  - 1. "Act" means R.I. Gen. Laws Chapter 23-61, entitled Radon Control.
  - 2. "Alpha track detector" means a passive radon testing device which performs time-integrated measurement.
  - 3. "Back-drafting" means a condition where normal upward movement of combustion products is reversed.
  - 4. "Charcoal adsorption device" means one of several variously configured containers filled with a measured amount of activated charcoal and used to measure radon.
  - 5. "Child care facility" means a facility which accommodates five (5) or more children of any age who are not related and is licensed by the Department of Children, Youth, & Families or the Department of Education.

- 6. "Continuous radon monitor" means an active radon detection device which uses an electronic detector to accumulate and store information related to the periodic measurement of average radon concentration.
- 7. "Department" means the Rhode Island Department of Health (RIDOH).
- 8. "Diagnostic tests" means tests performed or procedures used to determine appropriate radon mitigation methods.
- 9. "Director" means the director of the Rhode Island Department of Health.
- 10. "Electret Ion Chamber" means a passive measurement device consisting of a canister containing a charged electret.
- 11. "EPA" means the United States Environmental Protection Agency.
- 12. "Follow-up testing" means a test in which the radon testing device is exposed for a minimum of ten (10) days but not longer than one year.
- 13. "High priority building" means any public building or public, private, and/or parochial school (Grades pre-K to 12), and/or child care facility.
- 14. "HVAC" means heating, ventilation and air conditioning system.
- 15. "OSHA" means the Occupational Safety and Health Administration of the United States Department of Labor.
- 16. "Owner" means the person having legal title to property and/or buildings. For purposes of publicly owned property only, the owner shall be defined as the chief executive officer of the state or municipal agency which owns, leases or controls the use of the property.
- 17. "Person" means any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, agency, political subdivision of this state, and other state or political subdivision or agency thereof, and any legal successor, representative, agent or agency of the foregoing.
- 18. "Picocurie per liter (pCi/L)" means a unit of measurement of the concentration of radioactivity in a gas which equals 2.22 disintegrations per minute of radioactive material per liter. One picocurie is equivalent to 10 to the minus 12 (10-12) of a curie.
- 19. "Public building" means any building owned, managed, leased, furnished, or occupied by a state or municipal agency or commission, or public school.
- 20. "Radon" means the radioactive noble gas radon 222.

- 21. "Radon analytical service" means any person engaged in the reading or analysis of radon testing devices.
- 22. "Radon testing business" means any person engaged in radon testing for a fee, whose employees test for radon or radon progeny.
- 23. "Radon inspector" means an individual who performs radon or radon progeny testing, provides professional advice on such testing, health risks, radon related exposure, radon entry routes, and other radon related consulting activities.
- 24. "Radon contractor" means a person who engages in radon mitigation as a business, whose employees install systems to mitigate radon or radon progeny contamination.
- 25. "Radon supervisor" means an individual who evaluates diagnostic tests to determine appropriate radon or radon progeny mitigation strategies, designs and supervises the installation of mitigation systems. This individual will be named on the radon contractor's license.
- 26. "Radon worker" means an individual who helps install radon or radon progeny mitigation systems.
- 27. "Radon progeny" means the short lived radionuclides formed as a result of the decay of radon 222, including polonium 218, bismuth 214, lead 214, and polonium 214.
- 28. "Radon/radon progeny mitigation" means any actions or measures taken and any materials or equipment installed to reduce levels of radon gas and/or radon progeny in the air or water supply of a building, or to prevent entry of radon or radon progeny into the indoor atmosphere.
- 29. "Radon training course" means a course that provides instruction in radon testing or mitigation techniques.
- 30. "RCP" means the EPA National Radon Contractor Proficiency Program.
- 31. "RMP" means the EPA National Radon Measurement Proficiency Program.
- 32. "Short-term testing" means a test in which a radon testing device is exposed for a minimum of forty-eight (48) hours in closed conditions up to a maximum of ninety (90) days.
- 33. "Working Level (WL)" means the concentration of short lived radon progeny in the air that will result in 130,000 million electron volts (1.3 x 105 MeV) of potential alpha particle energy per liter of air.

#### 2.3.2 General Provisions

#### A. Variance Procedures.

- 1. The Department may grant a variance either upon its own motion or upon the request of the applicant from the provisions of any rule or regulation herein, if it finds, in specific cases, that a literal enforcement of such provisions will result in unnecessary hardship to the applicant. A variance shall not be granted if it is contrary to the public interest and/or health and safety of the public. The provisions of this section shall not be applicable to the requirements of §§ 2.7 through 2.14 of this Part pertaining to licensing and certification.
- 2. A request for a variance shall be filed by the applicant in writing, setting forth in detail the basis upon which the request is made. Within sixty (60) days after filing, the Department shall notify the applicant as to whether the request has been approved or denied. In the case of a denial, a hearing date, time and place may be scheduled if the applicant appeals the denial.
- B. Rules Governing Practices and Procedures.
  - 1. All hearings and reviews required under the provisions of R.I. Gen. Laws Chapter 23-61, shall be held in accordance with the provisions of the rules and regulations governing Practices and Procedures Before the Rhode Island Department of Health (Part 10-05-4 of this Title).

#### 2.3.3 Radon Standards

Air Standard. The indoor air standard for naturally occurring radon gas or radon progeny in buildings covered by this Part shall be less than 4 pCi/L (0.02 WL) as an annual average.

# 2.4 Testing of Radon in Air in High Priority Buildings

#### 2.4.1 Purpose and Scope.

- A. Testing protocols for radon in air are designed:
  - 1. To identify structures in which the potential exists for elevated radon concentrations;
  - 2. When elevated concentrations are found, to specify follow-up testing procedures to determine the level of occupant exposure; and
  - 3. When elevated concentrations are verified using follow-up testing procedures, to initiate appropriate remediation activities.

# 2.4.2 Buildings Requiring Radon Testing.

All public and high priority buildings, as defined in § 2.3.1 of this Part, must be tested for radon or radon progeny by a certified radon inspector according to the procedures, schedules and protocols contained in this section.

## 2.4.3 Initial Testing of Public and High Priority Buildings.

- A. It is the responsibility of the owner of a public or high priority building or buildings to
  - Submit a radon testing schedule to the Department, identifying each building and the dates of initial short-term radon testing scheduled for each building. Testing schedules shall be designed to ensure that child occupied buildings are completed first.
  - 2. Complete all initial short-term testing within three (3) years after the effective date of this Part.
  - 3. Report all short-term test results to the Department within thirty (30) days of receipt of results.
  - 4. Retest any area which has initial short-term test results of 4 pCi/L (0.02 WL) or greater, using follow-up testing requirements as described in § 2.4.9 of this Part.

# 2.4.4 Periodic Retesting of Public and High Priority Buildings.

Ten (10) percent of the first floor and below ground areas of the building must be retested three (3) years after the initial testing and every three (3) years thereafter. A different ten (10) percent of the first floor and below ground areas of the building must be tested every three (3) years. However, whenever a short-term test result in a room or other area of a building is 4 pCi/L (0.02 WL) or higher, that area must be included in subsequent periodic retesting.

# 2.4.5 Acceptable Radon Testing Methods.

Only those testing methods (devices) which have been determined to be acceptable by the EPA under the National Radon Measurement Proficiency Program and by the Department shall be acceptable for determining compliance with these regulations.

#### 2.4.6 Placement of Testing Devices.

- A. Testing device locations are to be determined after an analysis of the building.
- B. The location of all short-term and follow-up testing shall be noted on a floor plan of the building.

- C. Each habitable room on ground level and below, with the exception of rest rooms, closets, or shower areas, shall be tested in the initial test.
- D. In rooms greater than two thousand (2,000) square feet, at least one (1) test shall be taken for each two thousand (2,000) square feet, or portion thereof, of habitable floor space.
- E. Duplicate tests shall be taken in ten percent (10%) of the testing device locations.
- F. For each twenty (20) devices, one (1) additional testing device shall be opened, immediately resealed for the remainder of the exposure period, and processed with the other exposed testing devices to be utilized as a field blank.
- G. Testing devices must remain undisturbed during the test period or the reading shall be declared invalid and a new test shall be taken.
- H. Testing devices must be placed as follows:
  - 1. Between two and six (2 and 6) feet above the floor;
  - 2. A minimum of one and one-half (1.5) feet from any wall;
  - 3. Away from room corners, windows, drafts, direct sunlight, and any device that emits heat or moisture:
  - 4. In areas of normal air supply;
  - 5. Where the device shall not be blocked or covered during the testing period.

#### 2.4.7 Ventilation Requirements.

- A. The HVAC system shall be operated, for the entire testing period, in the normal heating, cooling, or ventilation cycle required for the building and the time of year.
- B. The operation of the HVAC system during the testing period shall be documented.

#### 2.4.8 Short-term Testing Requirements.

- A. For short-term testing:
  - 1. The building to be tested shall be left closed at least twelve (12) hours prior to and during the entire testing period. Routine entrances and exits are allowed.
  - 2. The testing devices shall be left in place for a minimum of forty-eight (48) hours.

- B. Short-term tests shall not be conducted when severe storms, high winds, heavy rainfalls, or rapid barometric changes are predicted.
- C. Short-term tests in any public and high priority buildings, as defined in § 2.3.1 of this Part, shall be conducted during the months of October through March excluding weekends and holidays.

## 2.4.9 Follow-up Testing Requirements.

- A. Short-term test results greater than or equal to 4 pCi/L (0.02 WL) but less than 20 pCi/L (0.1 WL) require the following steps to be taken:
  - 1. Begin follow-up testing within three (3) months after receiving the short-term results.
  - 2. Expose the testing device for a minimum of one hundred and twenty (120) days and no more than one (1) year.
- B. Short-term test results greater than or equal to 20 pCi/L (0.1 WL) but less than 100pCi/L (0.5 WL) require the following steps to be taken:
  - 1. Begin follow-up testing within twenty (20) calendar days after receiving the short-term results.
  - 2. Expose the testing device for a minimum of thirty (30) days but no longer than ninety (90) days.
- C. Short-term test results greater than 100 pCi/L (0.5 WL) require the following steps to be taken:
  - 1. Begin follow-up testing within ten (10) calendar days after receiving the short-term results.
  - 2. Expose the testing device for a minimum of ten (10) days but no longer than forty-five (45) days.
  - 3. After the testing period is complete, increase the amount of ventilation to the room until test results are available. If levels are found to be above normal, continue the increased ventilation until permanent steps are taken to reduce the level.
- D. During follow-up testing, windows and doors shall be operated as usual for the building and the time of year.
- E. Follow-up testing in school buildings must be conducted during the occupied portion of the school year, but may include both weekends and holidays, other than summer vacation.

# 2.5 Mitigation Requirements and Protocols for Public and High Priority Buildings

## 2.5.1 Mitigation Requirements and Schedule.

- A. Any area of a public or high priority building having an annual average level of radon in excess of or equal to 4 pCi/L (0.02 WL), measured according to the follow-up testing specifications in § 2.4.9 of this Part, must be mitigated to a level below 4 pCi/L (0.02 WL).
- B. Mitigation systems installations shall be completed according to the following schedule:
  - 1. Within one (1) year for results greater than or equal to 4 pCi/L (0.02 WL) but less than 20 pCi/L (0.1 WL).
  - 2. Within six (6) months for results greater than or equal to 20 pCi/L (0.1 WL) but less than 100 pCi/L (0. WL).
  - 3. Within sixty (60) days for results greater than or equal to 100 pCi/L (0.5 WL).
- C. Mitigation systems shall be installed by a licensed radon contractor.

# 2.5.2 Mitigation System Requirements.

- A. Licensed radon contractors shall follow standardized mitigation procedures contained in the applicable American National Standards Institute (ANSI) documents. referenced as follows:
  - 1. "Radon Mitigation Standards for Schools and Large Buildings" (RMS-LB 2014).
  - 2. "Protocols for Measuring Radon and Radon Decay Products in School and Large Buildings" (MALB 2014).
  - 3. "Protocol for Conducting Radon and Radon Decay Product Measurements in Multifamily Buildings" (RMS-MF 2014).
  - 4. "Radon Mitigation Standards for Multifamily Buildings" (RMS-MF 2014).
  - 5. "Protocols for Measuring Radon and Radon Decay Products in Homes" (MAH 2014)
  - 6. "Standard Practice for Mitigation Systems in Existing Low-Rise Residential Buildings" (ASTM E2121-12)

- 7. "Standard: Reducing Radon in New Construction of 1 & 2 Family Dwellings and Townhouses" (CCAH-2013)
- B. Radon reduction systems shall be clearly labeled with the following information:
  - 1. Identification as a radon mitigation system.
  - 2. Name, address, telephone number, and license number of the contractor.
  - Date of installation.
- C. All active radon reduction systems shall be designed to run continuously.
- D. Licensed radon contractors shall test for back-drafting to ensure that all combustion systems have sufficient air supply.

# 2.5.3 Post Mitigation Requirements.

- A. After installation of a mitigation system, testing shall be repeated in all mitigated rooms or areas, using the guidelines for initial short-term testing as identified in §§ 2.4.3 through 2.4.8 of this Part.
- B. Post mitigation tests shall be taken by a certified radon testing business that is not subject to the radon contractor's control or supervision.
- C. The building owner shall ensure that all post mitigation test results are submitted to the Department within thirty (30) days of any mitigation system installation.

# 2.6 Recordkeeping and Reporting Requirements for Public and High Priority Buildings

## 2.6.1 Recordkeeping Requirements

- A. The building owner shall maintain the following records until disposal is authorized in writing by the Department.
  - 1. Schedule for initial short-term testing.
  - 2. Annotated floor plan of each building tested showing short and follow-up testing locations.
  - Documentation of all radon tests taken.
  - 4. A list of any and all mitigation systems installed.

#### 2.6.2 Reporting Requirements

A. The building owner shall provide the following records to the Department:

- 1. Results of all radon tests shall be submitted in writing within 30 days of receipt.
- 2. Results equal to or greater than 100 pCi/L (0.5 WL) shall be reported to the Department and by phone within two (2) business days and by certified mail within five (5) business days.
- 3. Plans for follow-up testing of any area with a short-term test result greater than or equal to 4 pCi/L (0.02 WL), including:
  - a. Areas that will be tested
  - b. Date that testing will be initiated
  - c. Duration of the test
- 4. Plans for response to follow-up test results that are greater or equal to 4 pCi/L (0.02 WL), as specified in § 2.5 of this Part.
- 5. Documentation of installation of mitigation systems
- B. Public, private, and parochial schools (Grades Pre-K to 12), and child care facilities shall notify the families of all students attending that facility of a radon test result greater than or equal to 4 pCi/L (0.02 WL) within 30 days of receipt of that result using language supplied by the Department.

# 2.7 General Licensing and Certification Requirements

# 2.7.1 Application Requirements.

- A. No person may measure or analyze for radon or conduct associated radon mitigation activities in Rhode Island unless such person has been licensed and/or certified as provided by this Part. This Part in no way exempts any person from other state and local occupational licensure and/or certification requirements.
- B. An applicant seeking licensing and/or certification for radon testing or mitigation services within the state of Rhode Island shall:
  - 1. Complete the appropriate application form, available from the Department.
  - Submit the application, supporting credentials, and the appropriate licensing and/or certification fee, as identified in the rules and regulations pertaining to the Fee Structure for Licensing, Laboratory and Administrative Services Provided by the Department of Health (Part 10-05-2 of this Title) to the Department of Health, Radon Control Program, 3 Capitol Hill, Room 206, Providence, RI 02908-5097. Analytical services and training courses include an additional assessment based on the amount of services or courses offered.

## 2.7.2 Application Exemptions.

- A. The license and/or certification requirements of this Part shall not apply to:
  - 1. Those individuals testing or mitigating a private residence owned or leased by the individual who is performing the testing or mitigation.
  - 2. Any individual testing their own living area.
  - 3. Those persons who sell or offer radon testing devices, such as charcoal canisters, for sale at a retail outlet and do not manage the testing process or perform radon mitigation services.

## 2.7.3 Approval of Application.

- A. The requested license and/or certification shall be approved after the applicant:
  - 1. Submits a complete and accurate application;
  - 2. Submits the required application fee, as identified in the rules and regulations pertaining to the Fee Structure for Licensing, Laboratory and Administrative Services Provided by the Department of Health (Part 10-05-2 of this Title);
  - 3. Provides evidence of qualifications for the licensure and/or certification being sought; and
  - 4. If licensed and/or certified in another state, produces evidence that his/her status is in good standing.
- B. The Department may at any time after filing of the original application require further information to aid in making a determination.
- C. A license and/or certification shall be valid for up to one year following the date of issuance. No radon testing or mitigation activity shall be conducted after the expiration date of the license and/or certification.
- D. A replacement certificate, license, and/or picture identification (ID) may be obtained by submitting a written request and a fee as set forth in the rules and regulations pertaining to the Fee Structure for Licensing, Laboratory and Administrative Services Provided by the Department of Health (Part 10-05-2 of this Title) to the Department.

#### 2.7.4 Denial of Application.

The Department may deny an application if requirements established by the Act and/or by this Part have not been met. The applicant may request a hearing in accordance with the provisions of R.I. Gen. Laws Chapter 42-35.

#### 2.7.5 Renewal of License and/or Certification.

- A. The renewal application must be completed on the appropriate form and submitted with the appropriate fee, as identified in the rules and regulations pertaining to the Fee Structure for Licensing, Laboratory and Administrative Services Provided by the Department of Health (Part 10-05-2 of this Title).
- B. Renewal will be approved or denied in accordance with the provisions of §§ 2.7.3 and 2.7.4 of this Part, respectively.
- C. The current license or certification will remain valid for the period of time necessary for a final determination on a renewal application that has been filed thirty (30) days or more before the expiration of the current license.

#### 2.7.6 Suspension or Revocation of License or Certification.

- A. Pursuant to the provisions of R.I. Gen. Laws Chapter 23-61, the Department may suspend or revoke any license and/or certification for good cause. Good cause shall be deemed to include but not limited to:
  - 1. Performance of radon related activities for which s/he is not licensed and/or certified.
  - 2. Failure to carry on person a current picture ID, issued by the Department, at all times while performing any radon-related function.
  - 3. Failure to report any changes in the information provided in the original or renewal application to the Department, including changes in licensed and/or certified personnel, in writing and within ten (10) business days of the change.
  - 4. Failure to allow authorized representatives of the Department to have access during normal business hours to facilities, offices, and files for inspection and examination of radon-related records and test procedures.
  - 5. Failure to allow authorized representatives of the Department to observe and inspect on-site radon related testing or mitigation activities, with approval of the property owner, occupant, or other authorized person.
  - 6. Failure to conduct all radon-related activities in accordance with provisions of this Part and other applicable municipal, county, state and federal regulations.
  - 7. Failure to comply with the reporting requirements in § 2.7.7 of this Part.
  - 8. Failure to comply in any way with the Act or this Part.

#### 2.7.7 Reporting Requirements

- A. The certified radon testing business shall submit all radon and radon progeny test results for public and high priority buildings to the Department. The results from the previous quarter shall be submitted within thirty (30) days of the last day of each quarter on the appropriate reporting form, which is available from the Department.
- B. The certified radon testing business shall submit all radon and radon progeny test results for testing other than public and high priority buildings to the Department. The results from the previous quarter shall be submitted within thirty (30) days of the last day of each quarter on the appropriate reporting form, which is available from the Department. The information and results on this form will only be used for the tracking of testing.
- C. The certified radon testing business or the licensed radon contractor shall report radon and radon progeny test results to the client within thirty (30) days of receiving said results.
- D. Any client who is informed of the results of radon testing must also be informed of the name and the certification number of the person who took the measurements and the certified radon analytical service that performed the analysis.
- E. Radon test results shall be reported in picocuries per liter; radon progeny test results shall be reported in working levels.
- F. The report provided to the client shall include the following statement:
  - 1. This notice is provided to you by an organization or individual licensed and/or certified by the Department to perform radon or radon progeny testing or radon mitigation services. Any questions, comments, or complaints regarding the person performing these testing or mitigation services may be directed to the Rhode Island Department of Health, Radon Control Program, 3 Capitol Hill, Room 206, Providence, RI 02908-5097.
- G. Results equal to or greater than 100 pCi/L (0.5 WL) shall be reported to the Department and the client by phone within two (2) business days and by certified mail within five (5) business days. The client should also be advised to contact the Department's Radon Control Program.
- H. A licensed radon contractor shall submit a report to the Department on all mitigation work completed during the previous quarter. Reports shall be submitted within thirty (30) days of the last day of each quarter on the appropriate reporting form, which is available from the Department.

# 2.8 Requirements for Radon Contractors

# 2.8.1 Licensing Requirements.

In addition to the general licensing requirements in § 2.7 of this Part, all applicants for a radon mitigation license must identify the licensed radon supervisor(s) to be utilized.

# 2.8.2 Performance Requirements.

- A. In addition to the general requirements for all applicants listed in § 2.7 of this Part, the radon contractor must:
  - 1. Maintain a licensed radon supervisor on staff. In the event of the resignation or termination of said specialist, notify the Department in writing within five (5) business days and refrain from engaging in any radon mitigation activities until another specialist is hired.
  - 2. Ensure that radon mitigation system installations are performed by a licensed radon supervisor or licensed radon worker(s) under the direct supervision of the specialist.
  - 3. Subcontract only those portions of the mitigation project which involve the pouring of concrete slabs, plumbing, and electrical work.
  - 4. Provide to the client, in writing:
    - a. All warranties regarding radon level reductions and proper functioning of mitigation equipment. The precise coverage shall be explicitly stated in the contract offered to the client, and all warranties offered must be honored.
    - b. All instructions regarding the operation and maintenance of each component of the mitigation system.
    - c. An estimate of approximate added energy costs.
  - 5. Ensure that all mitigation work complies with these regulations, R.I. Gen. Laws Chapter 23-27.3, and local building codes.

## 2.8.3 Recordkeeping.

- A. The following records shall be maintained by the radon mitigation contractor until the Department authorizes disposition and shall be made available to the Department upon request:
  - 1. Records of all mitigation work performed, which shall include:
    - a. Address of mitigation.
    - b. Initial short-term test results.
    - c. Any follow-up test results.

- d. Diagnostic test results if taken.
- e. A description of each mitigation system.
- f. Post-mitigation test results, if known, that include testing method.
- g. All pertinent dates.
- 2. All instrument calibrations and warranted equipment installations.
- 3. Copies of the licenses for all radon supervisor(s) and radon worker(s) employed.

#### 2.8.4 Notification.

- A. The radon contractor shall ensure that the Department receives notification of the initiation of mitigation work on the appropriate form at least three (3) business days in advance of beginning any mitigation project. The radon contractor shall also notify the Department by telephone on the date that the project begins.
- B. The radon contractor shall ensure that the Department receives notification in writing at least one (1) business day in advance of any changes in the project.

# 2.8.5 Employee Health and Safety.

- A. To ensure the continued health and safety of all radon mitigation employees, the radon contractor shall:
  - 1. Develop and adhere to a health and safety program which:
    - a. Complies with all OSHA standards pertinent to health and safety.
    - b. Complies with the OSHA lonizing Radiation standard (29 C.F.R. § 1910.1096).
  - 2. Make this program available to all employees and to any federal, state, or local regulatory agencies.

# 2.9 Requirements for Radon Testing Businesses

## 2.9.1 Certification Requirements.

In addition to the general licensing requirements in § 2.7 of this Part, all applicants for a radon testing business certification must identify the certified radon inspector(s) to be utilized.

#### 2.9.2 Performance Requirements.

- A. In addition to the general requirements for all applicants, as listed in § 2.7 of this Part, the owners of a radon testing business must:
  - 1. Maintain the services of a certified radon inspector. In the event of the resignation or termination of said consultant, the business must notify the Department in writing within seven (7) days and refrain from engaging in any radon testing activities until obtaining the services of another certified radon inspector.
  - 2. Ensure that all radon and radon progeny testing, including the placement and retrieval of all testing devices, is performed by certified radon inspectors.
  - 3. Develop and adhere to a quality assurance and quality control plan for each service and technique provided.
  - 4. Use only radon testing methods and protocols that have been determined acceptable by the EPA's National Radon Measurement Proficiency Program and the RIDOH. The Department must be notified in five (5) business days of any change in the type of device being used.
  - 5. Identify all analytical services to be used. These services must be listed by this agency as a radon analytical service for the testing device(s) analyzed.

# 2.9.3 Recordkeeping.

- A. The following records shall be maintained until the Department authorizes disposition and shall be made available to the Department upon request:
  - 1. All tests taken, which shall include:
    - Address of test(s).
    - Initial short-term test and retest results.
    - c. Follow-up test results.
    - d. Diagnostic test results.
    - e. Post-mitigation test results that include the testing method.
    - f. Name and certification number of person making the test(s).
    - g. Name of the certified radon analytical service used.
    - h. All pertinent dates.
  - 2. All instrument calibrations.

3. Copies of the certifications for all radon inspectors employed.

# 2.10 Requirements for Radon Supervisors

# 2.10.1 Licensing and Training Requirements.

- A. In addition to the general requirements for all applicants, as listed in § 2.7 of this Part, the applicant for the position of radon supervisor must:
  - 1. Successfully complete a course that is approved by the EPA and the Department.
  - License renewal applications must also include documentation regarding successful completion of a required biennial review course that is approved by the Department.
  - 3. Provide documentation of passing the EPA radon mitigation proficiency (RCP) examination.

# 2.10.2 Performance Requirements.

- A. A person who performs radon mitigation activities for which licensing is required shall either be licensed as a radon contractor or be employed by a licensed radon contractor prior to performing any radon mitigation services.
- B. Radon supervisor services must be performed under the auspices of a licensed radon contractor. A specialist may be listed on more than one radon contractor's license and may also qualify as a licensed radon worker for other contractors.
- C. All radon supervisors shall maintain a listing in the EPA Radon Contractor Proficiency Program (RCP).
- D. A radon supervisor shall notify the Department of termination of services from a contractor within five (5) business days.

# 2.11 Requirements for Radon Inspectors

# 2.11.1 Certification and Training Requirements.

- A. In addition to the general requirements for all applicants, as listed in § 2.7 of this Part, the applicant for the position of radon inspector must:
  - 1. Successfully complete a course that is approved by the Department.
  - 2. Certification renewal applications must also include documentation regarding successful completion of a required biennial review course that is approved by the Department.

3. Provide documentation of passing the EPA radon measurement proficiency (RMP) examination.

## 2.11.2 Performance Requirements.

- A. A person who performs radon testing activities for which certification is required shall either own a certified radon testing business or be employed by a certified radon testing business prior to performing radon testing services.
- B. Radon inspector services must be performed under the auspices of a certified radon testing business. A consultant may be listed with more than one radon testing business.
- C. All radon inspectors shall maintain a listing in the EPA Radon Measurement Proficiency Program (RMP).
- D. The consultant for a radon testing business shall:
  - 1. Perform test(s).
  - 2. Provide signed quarterly reports to the Department.
  - 3. Notify clients of radon levels, in accordance with the provisions of these regulations.
  - 4. Assess quality assurance and quality control measures.
  - 5. Evaluate operating procedures and ensure compliance with state and federal regulations.
- E. A radon inspector shall notify the Department of termination of services from a testing business within seven (7) days.

# 2.12 Requirements for Radon Workers

# 2.12.1 Licensing and Training Requirements.

In addition to the general requirements for all applicants, as listed in § 2.7 of this Part, the applicant for the position of radon worker must successfully complete a Department-approved course for radon workers or other equivalent training (4 hours) given by a licensed supervisor which must include instruction on radon testing, mitigation installation techniques, worker safety, and radon health effects.

# 2.12.2 Performance Requirements.

A. Radon worker services must be performed under the on-site supervision of a licensed supervisor.

B. The applicant must also receive a biennial review of radon mitigation techniques and instruction on new technology and industry practices given by the licensed supervisor.

# 2.13 Requirements for Radon Analytical Services

# 2.13.1 Certification Requirements.

- A. In addition to the general requirements for all applicants, as listed in § 2.7 of this Part, the applicant for a radon analytical service must:
  - 1. Provide documentation of successful completion of the EPA Radon Measurement Proficiency Program (RMP) for each primary testing device for which certification is desired.
  - 2. Identify all personnel performing analysis or readings.
  - 3. Provide the Department with a copy of the quality assurance and quality control procedures for each radon testing method established by the applicant.
  - 4. Provide evidence of licensure as an analytical laboratory by the RIDOH in accordance with R.I. Gen. Laws Chapter 23-16.2 entitled "Laboratories" for the following methods:
    - a. Alpha Track Detectors
    - b. Charcoal Adsorption Devices
    - c. Charcoal Liquid Scintillation Devices
    - d. Continuous Radon Monitors
    - e. Electret Ion Chambers

#### 2.13.2 Performance Requirements.

- A. Radon analytical services must maintain a listing in the EPA Radon Measurement Proficiency Program (RMP) for each primary testing device for which certification is requested.
- B. Analytical services certified in accordance with this Part must comply with any other applicable state and local licensing and/or certification requirements.

# 2.14 Requirements for Radon Training Courses

# 2.14.1 Certification Requirements.

- A. In addition to the general requirements for all applicants, as listed in § 2.7 of this Part, the applicant for certification of a radon training course must:
  - 1. Submit the application for a radon training course to the Department for review at least forty-five (45) days before the course is scheduled to begin.
  - 2. Submit copies of the course curriculum, training materials, and qualifications of the proposed instructors to the Department.
  - 3. Obtain certification for each of the following courses that the applicant plans to offer:
    - a. Initial Radon Supervisor 32 hours
    - b. Initial Radon Inspector 16 hours
    - c. Initial Radon Worker 4 hours
    - d. Radon Supervisor Biennial Review 8 hours
    - e. Radon Inspector Biennial Review 8 hours
- B. Radon contractor courses must be approved by the EPA and the Department. All other courses must be approved by the Department and meet the requirements of this Part.
- C. The Department shall utilize EPA guidelines to evaluate the training course.
- D. Certification will be valid for one (1) year following the date of issuance. Approval for course material shall be granted for a period of two (2) years unless the requirements for course approval are not met.

## 2.14.2 Performance Requirements.

- A. The course provider shall:
  - 1. Update the subject matter as necessary to conform to all currently accepted techniques and protocols.
  - 2. Any proposed changes in course materials or instructors shall be reported in writing to the Department at least fifteen (15) business days and must be approved prior to implementation of the change(s).
  - 3. Allow authorized representatives of the Department to observe and evaluate training sessions, instructors, and course materials.
  - 4. Provide the course participants with an opportunity to evaluate, in writing, all aspects of the course including:

- a. Instructor;
- b. Teaching methods;
- c. Course content; and
- d. Facilities.
- 5. Results of this evaluation shall be available for Department inspection for five (5) years after course completion.
- 6. Provide each participant with a written verification of successful course completion which shall include:
  - a. Name of participant.
  - b. Title and date of course.
  - c. Name, address, and phone number of course provider.
  - d. Name and signature(s) of course instructor(s)

# 2.14.3 Recordkeeping.

- A. The course provider shall:
  - 1. Maintain attendance records.
  - 2. Maintain documentation of each certified course given and shall include as a minimum:
    - a. The type of course;
    - b. The date(s) and location(s) of course;
    - c. The class roster.
  - 3. Retain all records for a minimum of five (5) years.

#### 2.14.4 Notifications.

- A. The course provider shall:
  - 1. Submit the date(s) and locations of all training courses to be received by the Department in writing at least seven (7) days prior to start of course.
  - 2. Submit a roster of course participants to the Department on the appropriate form within thirty (30) days after course completion.

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