

## SUBCHAPTER 27 CERTIFICATION OF RADON TESTERS AND MITIGATORS

### **7:28-27.1 Scope**

This subchapter establishes rules, requirements and procedures that a person who wishes to perform radon testing or mitigation in New Jersey shall comply with in order to become and remain certified. Certification is mandatory in New Jersey pursuant to N.J.S.A. 26:2D-70 et seq. for any person who sells radon/radon progeny devices, tests for radon/radon progeny or mitigates radon in buildings. Mitigation devices that reduce only radon progeny levels will not be certified under this subchapter. Any person not certified and performing radon services shall be subject to the criminal penalties in N.J.S.A. 26:2D-77.

## 7:28-27.2 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise.

**"Act"** means the New Jersey Radiation Protection Act, N.J.S.A. 26:2D-1 et seq.

**"Applicant"** means any person who applies for certification.

**"Authorized measurement protocols"** means, for radon measurements in air, the "Interim Indoor Radon and Radon Decay Product Measurement Protocols," E.P.A. 520/1-86-04, amendments thereto, or its latest revision; and "Interim Protocols for Screening and Follow-up Radon and Radon Decay Product Measurements", EPA 520/1-86-014-1; page 4 and 13, and 15.

**"Authorized proficiency program"** means the United States Environmental Protection Agency Radon/Radon Progeny Measurement and Proficiency Program, at the Eastern Environmental Radiation Facility, Montgomery Alabama 36109 or other program equally stringent and authorized by the Department in accordance with the latest edition of New Jersey Department of Environmental Protection document "New Jersey Radon Measurement Proficiency Program."

**"Building"** means a structure enclosed with exterior walls or fire walls, built, erected and framed of component structural parts, designed for the housing, shelter, enclosure or support of individuals.

**"Business day"** means any day of the year, exclusive of Saturdays, Sundays, and State of New Jersey holidays.

**"Certified radon laboratory"** means a radiological laboratory which analyzes samples for the presence of radon and/or radon decay products in a facility separate from the location in which the sample was taken using stationary detection equipment, and holds a current valid certificate issued by the Department pursuant to N.J.A.C. 7:18 for radon analysis.

**"Certified person"** means a certified radon measurement business, certified radon measurement specialist, certified radon measurement technician, certified radon mitigation business, certified radon mitigation specialist or certified radon mitigation technician as defined in this subchapter.

**"Certified radon measurement business"** means a commercial business enterprise certified pursuant to this subchapter to sell devices or test for radon and/or radon progeny.

**"Certified radon measurement specialist"** means a person certified pursuant to this subchapter to perform and / or evaluate radon and/or radon progeny measurements for a certified radon measurement business.

**"Certified radon measurement technician"** means a person certified pursuant to this subchapter to perform radon and radon progeny measurement activities.

**"Certified radon mitigation business"** means a commercial business outlet certified pursuant to this subchapter to design and/or install systems in buildings to mitigate and safeguard against radon contamination.

**"Certified radon mitigation specialist"** means a person certified pursuant to this subchapter to evaluate diagnostic tests to determine appropriate radon mitigation and safeguard strategies for a building.

**"Certified radon mitigation technician"** means a person certified pursuant to this subchapter who installs and/or supervises the installation of radon mitigation or safeguard systems in buildings.

**"Department"** means the New Jersey Department of Environmental Protection.

**"Diagnostic tests"** means tests performed or procedures used to determine appropriate mitigation methods for a building.

**"Effective(ness)"** as it applies to mitigation means, a system, material, or, procedure which when installed in a building consistently reduces radon levels to or below 4 Pci/I in the lowest lived-in level of the building.

**"Mitigate"** means to apply materials and/or install systems and materials to reduce radon concentrations in the indoor atmosphere or prevent entry of radon into the indoor atmosphere.

**"Mitigation System"** means a step or series of steps employed to actively reduce radon levels in buildings including but not limited to, sealing techniques, natural and forced air ventilation techniques and soil ventilation techniques.

**"Person"** means and shall include corporations, companies, associations, societies, firms, partnerships, and joint stock companies as well as individuals.

**"Picocurie per liter (pCi/l)"** means 2.2 disintegrations per minute of radioactive material per liter. It may be used as a measure of the concentration of radon gas in air. one picocurie is equivalent to  $10^{-12}$  curies.

**"Proficiency Test"** means a test conducted within an authorized proficiency program that a radon measurement business must pass at prescribed times in order to demonstrate its ability to test for radon and/or radon progeny and to become certified and maintain certification.

**"Radon"** means the radioactive noble gas radon-222.

**"Radon progeny"** means the short-lived radionuclides formed as a result of the decay of radon-222, including polonium-218, lead-214, bismuth-214 and polonium-214.

**"Reciprocal agreement state"** means a state, formally recognized by the Department, which has established radon certification requirements and procedures no less stringent than those required by this subchapter and complies with the requirements of N.J.A.C. 7:28-27.23.

**"Scope of employment"** means acts carried out which are so closely connected with what a servant is employed to do and so fairly and reasonably incidental to it that they may be regarded as methods, even though improper, of carrying out the objectives of the employment and furthering the interest of the employer.

**"USEPA"** means the United States Environmental Protection Agency.

**"Working level (WL)"** means that concentration of short-lived radon decay products that will result in 130,000 million electron volts of potential alpha particle energy per liter of air. Working level is a measure of radon decay product concentration in air.

### **7:28-27.3 General provisions**

(a) Beginning 90 days after the date of establishment of this certification program, no person may sell devices, test for, mitigate, or safeguard against the presence of radon in the State of New Jersey unless such person is certified pursuant to this subchapter or has been exempted from certification pursuant to N.J.A.C. 7:28-27.31, or temporarily certified in accordance with the provisions of N.J.A.C. 7:28-27.35.

I. The date of establishment of the certification program will be 120 days after the date of adoption of the final regulation. Program administration and activity fees assessed under this regulation will not be collected until the program is established.

(b) A certified person shall continuously remain in compliance with the Act and this subchapter.

(c) No certification shall be issued or renewed unless the applicant demonstrates to the Department that the following requirements are met.

1. The applicant is not in violation of the Act or this subchapter and does not have a certification issued by the Department suspended or revoked.

2. The applicant is capable of performing the activities for which he or she is seeking certification in accordance with the Act and this subchapter; and

(d) Any person certified to perform radon measurement and/or mitigation shall only do such measurements and/or mitigations for which the person is certified.

1. Any person certified to perform radon measurement and/or mitigation who does not perform so in accordance with this subchapter shall be subject to the suspension and revocation provisions set forth in N.J.A.C. 7:28-27.25.

(e) A certified person shall conduct his or her activities in accordance with the approved certification and the provisions of the Act, this subchapter, and all other applicable municipal county, state, and federal regulations and codes.

(f) A certified business shall submit to the Department, in writing, changes in the information provided in the original application including changes in client reporting forms, quality assurance/quality control plans, measurement. or mitigation techniques 30 days prior to their use by the certified business. No fee is charged for such application amendments. The certified business shall also report to the Department, in writing, changes in certified personnel 14 days prior to their use.

(g) A person who wishes to be certified in any or all of the categories described in this subchapter, shall submit an application and the appropriate fee to the New Jersey Department of Environmental Protection, Division of Fiscal and Support Services, Bureau of Revenue, CN 402, Trenton, New Jersey, 08625, (609) 530-5767 prior to the Department issuing the approved certification. A person who wishes to add a category to an existing certification shall submit an application to the Bureau of Environmental Radiation, Radon Certification Program, New Jersey Department of Environmental Protection, CN 415, Trenton, New Jersey, 08625.

(h) A person shall be guilty of a crime of the third degree if he or she tests for or mitigates against radon/radon progeny in air unless he or she is certified for activities performed pursuant to N.J.A.C. 7:18 or this subchapter.

(i) Unless otherwise specified, any questions concerning the requirements of this subchapter and requests for application forms should be directed to the Bureau of Environmental Radiation, Radon Certification Program, New Jersey Department of Environmental Protection, CN 415, Trenton, New Jersey 08625, (609) 987-6396.

(j) It is the responsibility of the certified businesses to obtain the appropriate certificates, to maintain certified professionals in employment, to develop the quality assurance/quality control and radiological safety plan required-by and in accordance with to N.J.A.C. 7:28-27.33 and N.J.A.C. 7:28-27.34 and to report results of all measurement and/or mitigation activity to the Department.

## 7:28-27.4 Signatories

(a) All-applicants shall, upon submission of initial or renewal applications, sign the following certification on the application forms:

1. "I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including fines and or imprisonment."

i. The certification set forth in (a) above shall be signed by the individual seeking certification and the highest ranking individual at the facility, with overall responsibility for that facility.

2. "I. certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including the possibility of fine and/or imprisonment."

i. The certification required by (a)2 shall be signed as follows:

(1) For a corporation, by a principal executive officer of at least the level of vice president;

(2) For a partnership or sole proprietorship, by, a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal or other public agency, by either the principal executive officer or ranking elected official.

(b) In cases where the highest ranking corporate, partnership, or governmental officer or official at the facility as required in (a) 1i above is the same person as the official required to certify in (a) 2i, only the certification in (a) 1 need be made. In all other cases, the certifications of (a) 1 and 2 shall be completed.

(c) All signatures required by this section shall be notarized.

## **7:28-27.5 Certification requirements for radon measurement business**

(a) A certified radon measurement business shall at all times maintain on staff or retain as a consultant a certified radon measurement specialist.

1. The certified radon measurement specialist shall direct the measurement activities of the measurement business and shall sign and be responsible for the review, approval, and verification of the reports required in section 27.28 of this subchapter.

2. The certified radon measurement specialist shall assess quality assurance and quality control measures of the measurement business, evaluate operating procedures, and ensure compliance with State and Federal regulations.

(b) Radon or radon progeny testing may only be performed by certified radon measurement specialists or certified radon measurement technicians.

1. Any person who wishes to test or analyze for radon in water must be certified pursuant to N.J.A.C. 7:18.

(c) The certified radon measurement business shall develop and adhere to a plan of quality assurance and quality control for each type of measurement equipment employed in order to assure the reliability and validity of radon measurements. Such plan shall contain the elements of N.J.A.C. 7:28-27.33, be submitted and approved by the Department and, at a minimum, include the requirements of the authorized measurement protocols.

(d) The certified radon measurement business shall develop and comply with a radiological safety plan designed to keep each employee's exposure to radon and radon progeny as low as reasonably achievable. Such plan shall be submitted and approved by the Department and include the requirements of N.J.A.C. 7:28-27.34.

(e) A certified radon measurement business shall secure the services of a certified radon laboratory certified pursuant to N.J.A.C. 7:18 to analyze samples for the presence and level of radon and/or radon progeny when the analysis requires the use of non-portable equipment in a facility separate from where the sample was taken.

(f) A certified radon measurement business which analyzes samples using non-portable equipment such as carbon canisters, alpha track detectors, or radon progeny integrated sampling units shall also be certified pursuant to N.J.A.C. 7:18.

(g) The use of portable radon or radon progeny measurement equipment such as a continuous radon monitor or a continuous working level monitor, does not require laboratory certification pursuant to N.J.A.C. 7:18.



(h) A certified radon measurement business shall have its Department radon certification number prominently displayed on each measurement device and/or package it utilizes.

(i) A certified radon measurement business shall at all times have on staff a certified radon measurement technician who has currently passed the authorized proficiency test required for initial and renewal certification.

1. In the case where a certified radon measurement business loses the services of the technician who passed the proficiency test, the business shall have no more than forty-five days to either employ another technician who has passed the most recent proficiency or have a currently employed technician take and pass a proficiency test.

i. In the case where no proficiency testing is available through an authorized proficiency program within the forty-five day period, the certified radon measurement business shall be subject to the requirements of 7:28-27.6 (a) 9 iii, iv, and v.

## 7:28-27.6 Application requirements for a radon measurement business

(a) A person applying for certification as a radon measurement business shall submit the following information on forms provided by the Department:

1. The name, business location, address, and telephone number of the applicant.
2. The applicant's status as a corporation, company, association, society, firm, partnership, joint stock company or sole proprietorship.
3. The name and address of owners, officers, general and limited partners, directors, and principal shareholders.
4. For the persons listed in 3 above, the nature of any interest, financial or otherwise, in radon mitigation businesses or services.
5. For corporations, the state of domestic incorporation, and the names and principal places of business of any parent corporations of the applicant.
6. An identification **of** the type of radon and/or radon progeny measurement equipment for which certification is sought, as defined in the authorized measurement protocols.
7. An identification of the certified radon measurement specialists and certified radon measurement technicians employed by the business as staff members **or** consultants to be utilized by the applicant.
8. An identification of all instrumentation to be used in radon or radon progeny measurement: by manufacturer, model number, and serial number, or for non-portable measurement equipment, the analytical laboratory name, address, and relevant Department laboratory certification number.
9. Proof of successful completion of a proficiency test for each type of measurement equipment to be offered.
  - i. This requirement may be met by applicants who have devices such as carbon canisters, alpha track detectors, charcoal liquid scintillation, radon progeny integrating sampling units, and pump carbon radon grab samples or other devices analyzed by certified radon laboratories by submitting reports indicating that laboratory's successful completion of proficiency tests.

ii. Businesses which utilize portable instrumentation such as continuous working level monitors, continuous radon monitors, electret ion chambers, evacuated scintillation cells, pump-collapsible bag devices, flank grab samples, and radon progeny grab samples shall participate in an authorized proficiency program and demonstrate proficiency for each type of equipment utilized.

iii. If an applicant, which utilizes portable instrumentation, submits proof that he or she has applied to an authorized proficiency program but testing will not be available within six months after he or she applied to the program, then the proficiency requirement is met provisionally, until the applicant takes and passes the next proficiency test, provided the applicant shows proof of at least two equipment/instrument calibrations during the six month period directly prior to applying for certification and all other requirements of this subchapter are fulfilled.

iv. If the applicant takes and does not pass the next proficiency test or does not take the next proficiency test, the provisional certification is void and he or she must re-apply for certification in accordance with the provisions of this subchapter.

v. If a proficiency test is not available during the provisional period, the final certification will be based on an on-site inspection of the business.

10. A copy of the quality assurance plan specified in N.J.A.C. 7:28-27.33.

11. A copy of the radiological safety plan specified in N.J.A.C. 7:28-27.34.

12. A copy of all reporting forms used to report results to clients.

## 7:28-27.7 Certification requirements for a radon mitigation business

(a) The certified radon mitigation business shall employ as a staff member or consultant a certified radon mitigation specialist who shall be responsible for evaluating; diagnostic tests in buildings and designing mitigation systems for those buildings.

(b) The certified radon mitigation business shall obtain all necessary permits for installation of mitigation systems from the appropriate construction code enforcing agency or other pertinent authorities prior to initiating any activity requiring the permit.

(c) The certified radon mitigation business shall assure that radon mitigation system installations are performed under the direct supervision of a certified radon mitigation specialist or certified radon mitigation technician.

(d) The certified radon mitigation specialist shall perform a visual inspection and diagnostic tests, as appropriate, prior to system installation to determine the appropriate mitigation system to be installed. Observations and test results made during inspections shall be documented by the specialist.

(e) The certified radon mitigation business shall provide all warranty information on the reduction of the radon level, and the proper functioning of mitigation equipment in writing to clients prior to installation of the system. When a business warrants a system, the warranty shall be honored and the precise coverage shall be explicitly stated in the contract offered to the client.

(f) This certified radon mitigation business shall have each building tested for radon levels before and after mitigation work is performed. Such tests shall be of comparable duration and sufficient type and consistency to allow for comparison of before and after mitigation radon levels, and shall be performed by a certified measurement business. The post mitigation test shall be started no sooner than 12 hours following mitigation.

(g) The mitigation system or material installed shall have been demonstrated to the Department to be effective in reducing radon; levels in buildings or water supplies.

(h) The certified radon mitigation business, prior to commencing any work, shall provide the client in writing, a description of any adverse effects produced by the operation of the mitigation system including a discussion of the possible types of energy costs to be incurred in operating the system. Immediately upon completion of the installation of the mitigation- system, the certified radon mitigation business shall provide the client, in writing, instructions on the operation and maintenance of the system.

1. The certified radon mitigation business shall also affix a statement (label) on the installed equipment. This statement shall disclose the purpose and correct operating and maintenance procedures of the system.

(i) The certified radon mitigation business shall develop and adhere to a radiological safety plan submitted and approved by the Department designed to keep each employee' s exposure to radon as low as is reasonably achievable. Such plan shall, at a minimum, include the requirements in N.J.A.C. 7:28-27.34.

## **7:28-27.8 Application requirements for radon mitigation business**

(a) A person applying for certification as a radon mitigation business shall submit the following information on forms provided by the Department:

1. The name, business location, address, and telephone number of the applicant.
2. The applicant's status as it corporation, company, association, society, firm, partnership, joint stock company or sole proprietorship.
3. The names and addresses of owners, officers, general and limited partners, directors, and the principal shareholders.
4. For the persons listed in (a)3 above, the nature of any interests, financial or otherwise, in radon measurement businesses or services.
5. For corporations, the state of domestic incorporation and the names and principal places of business of the parent corporation of any applicant.
6. A description of all mitigation systems offered, and types of diagnostic evaluations performed.
  1. Proof that the systems and the diagnostic evaluations offered have been effective in reducing radon levels.
7. An identification of the certified radon mitigation specialists and the certified radon mitigation technicians employed by the business as staff or consultants to be utilized by the business.
8. An identification of the certified radon measurement businesses to be utilized by the certified radon mitigation business to perform radon and/or radon progeny testing prior to and following the radon mitigation.
9. An identification of all procedures and instrumentation used in performing diagnostic tests.
10. A copy of the forms to be used when reporting to the client.
11. A copy of the radiological safety plan meeting, at a minimum, the requirements specified in N.J.A.C. 7:28-27.34.

## **7:28-27.9 Certification requirements for radon measurement specialists**

(a) Prior to applying for certification as a radon measurement specialist:

1. An applicant shall possess a Bachelor's degree from an accredited institution in biological sciences, chemistry, physics, geology; or other natural science or engineering and at least one year of radiation work experience.

i. Persons currently certified in the United States as a Certified Health Physicist are considered to have met the degree requirements and radiation experience of this section.

ii. Radiation work experience shall include documentable experience in two or more of the following areas:

a. Establishment and/or evaluation of a radiation protection program;

b. Design and/or the evaluation of the design of the radiation protection aspects of a facility;

c. Design and implementation of a radiation protection training course or program;

d. Development of an experimental and/or measurement program designed to answer questions related to radiation protection;

e. Evaluation of measurement data

f. Analysis and solution of radiation protection problems;

g. Preparation, interpretation, and implementation of recommendations and regulations.

2. An applicant shall have-at least six months of measurement work experience within the State or in a reciprocal agreement state administering radon and/or radon progeny measurement activities and evaluating the results of radon tests;

3. An applicant shall have successfully completed a course or seminar consisting of at least 24 hours of training approved by the Department, covering radiation with emphasis on radon; and

4. An applicant shall pass a written examination offered or approved by the Department.

(b) Certification as a radon measurement specialist qualifies a person as a certified radon measurement technician.

(c) If a certified radon measurement specialist wishes to function as a measurement business, he or she must be certified as a radon measurement business.

**7:29-27.10 Application requirements for a radon measurement specialists**

(a) A person applying for certification as a radon measurement specialist shall submit the following information on forms provided by the Department:

1. The name, address, and telephone number of the applicant.
2. Proof, such as a certified true copy of a transcript, showing that he or she holds a Bachelor's degree from an accredited institution in a natural science or engineering.
3. Proof of at least one year of radiation work experience.
4. Proof of at least six months of measurement work experience within the State or in a reciprocal agreement state.
5. Proof that he or she has successfully completed a Department approved course with emphasis on radon.
6. Proof of passing a written examination offered or approved by the Department.
7. List of all certified radon measurement businesses for which the applicant will be a certified radon measurement specialist.



## **7:28-27.11 Provisional certification of radon measurement specialists**

(a) Provisional certification shall be granted to an applicant fulfilling the requirements specified in N.J.A.C. 7:28-27.10(a)1 through 5 and 7. The applicant shall take and pass the next radon measurement specialist examination offered or approved by the Department and accrue an additional six months of measurement work experience as defined in N.J.A.C. 7:28-27.9(a)3 following the examination or the provisional certification becomes null and void. The provisional certification will terminate seven months after the date of the exam unless the applicant submits proof to the Department in writing that he or she meets all the requirements for certification and requests full certification. The provisional certification may be revoked by the Department if the certified person fails an examination required for certification or violates any of the provisions of the Act, this subchapter or any condition of the provisional certification.

(b) Provisional certification shall be granted to those applicants fulfilling the requirements specified in N.J.A.C. 7:28-27.10(a)1, 2, 3, 5, 6 and 7 above. Such provisional certification will allow the applicant to accrue the measurement work experience required by N.J.A.C. 7:25-27.9(a)3. The provisional certification will terminate seven months after the date of issuance unless the applicant submits proof to the Department in writing that he or she meets all the requirements for certification and requests full certification. The provisional certification may be revoked by the Department if the certified person fails to successfully complete the continuing education courses or violates any of the provisions of the Act, this subchapter or any condition of the provisional certification.

**7:28-27.12 Certification requirements for radon measurement technicians**

(a) Prior to applying for certification as a radon measurement technician:

1. An applicant shall have at least one half year of technical measurement work experience within the state or a reciprocal agreement state performing radon and/or radon progeny measurements.

2. An applicant shall have successfully completed a Department approved course or seminar consisting of at least 16 hours of training on radiation with emphasis on radon.

3. An applicant shall pass a written examination offered or approved by the Department.

**7:28-27.13 Application requirements for radon measurement technician**

(a) A person applying for certification as a radon measurement technician shall submit the following information on forms provided by the Department.

1. The name, address, and telephone number of the applicant.
2. Proof of at least one half year of technical measurement work experience within the State or a reciprocal agreement state.
3. Proof that he or she has successfully completed a Department approved course or seminar on radiation with emphasis on radon.
4. Proof of passing a written examination offered or approved by the Department.
5. A list of all the certified radon measurement businesses for which the applicant will be a certified measurement technician.

## **7:28-27.14 Provisional certification of radon measurement technician**

(a) Provisional certification will be granted to those applicants fulfilling the requirements specified in N.J.A.C. 7:28-27.13(a)1 through 3 and 5. The applicant shall take and pass the next radon measurement technician examination offered or approved by the Department and accrue an additional six months of technical measurement work experience as defined in N.J.A.C. 7:28-27.12(a)1 following the examination or the provisional certification becomes null and void. The provisional certification will terminate seven months after the date of the exam unless the applicant submits proof to the Department in writing that he or she meets all the requirements for certification and requests full certification. The provisional certification may be revoked by the Department if the certified person fails an examination required for certification or violates any of the provisions of the Act, this subchapter or any condition of the provisional certification.

(b) Provisional certification will be granted to those applicants fulfilling the requirements of sections N.J.A.C. 7:28-27.13(a)1, 3, 4, and 5. Such provisional certification will allow the applicants to accrue the requisite technical measurement work experience required by N.J.A.C. 7:28-27.12(a)1. The provisional certification will terminate seven months after the date of issuance unless the applicant submits proof to the Department in writing that he or she meets all the requirements for certification and requests full certification. The provisional certification may be revoked by the Department if the certified person fails to successfully complete the continuing education courses or violates any of the provisions of the Act, this subchapter or any condition of the provisional certification.

## **7:28-27.15 Certification requirements for radon mitigation specialists**

(a) Prior to applying for certification as a radon mitigation specialist.

1. An applicant shall possess any combination of five years is of relevant college education or work experience. Persons currently licensed in New Jersey as Professional Engineers are considered to have met the five years of relevant college education and work experience requirements of this section.

i. Relevant college education means an undergraduate or graduate curriculum in architecture, engineering, or HVAC studies.

ii. Relevant work experience means the design, construction and renovation of buildings, and associated heating; ventilation, and air conditioning systems or design and instillation of radon mitigation systems.

2. An applicant shall have at least six months of mitigation work experience within the State or in a reciprocal agreement state performing and/or evaluating radon and/or radon progeny diagnostic tests made in a building, soil or water and designing mitigation systems.

3. An applicant shall have successfully completed a Department approved course or seminar consisting of at least 24 hours of training on radon diagnosis and mitigation; and

4. An applicant shall pass a written examination offered or approved by the Department.

(b) If a certified radon mitigation specialist wishes to function as a radon mitigation business he or she must be certified as a radon mitigation business.

(c) Certification as a radon mitigation specialist qualifies an individual as a certified radon mitigation technician.

**7:28-27.16 Application requirements for radon mitigation specialists**

(a) A person applying for certification as a radon mitigation specialist shall submit the following information on forms provided by the Department:

1. The name, address, and telephone number of the applicant;
2. Proof of any combination of five years of relevant college education or work experience;
3. Proof of at least six months of mitigation work experience within the State or in reciprocal agreement state;
4. Proof which satisfactorily demonstrates to the Department that evaluation procedures and mitigation systems, described in N.J.A.C. 7:28-27.15(a)2 above, have been effective.
5. Proof of successful completion of a Department approved course on radon diagnosis and mitigation;
6. Proof of passing a written examination offered or approved by the Department.

## **7:28-27.17 Provisional certification of radon mitigation specialists**

(a) Provisional certification shall be granted to those applicants fulfilling the requirements specified in N.J.A.C. 7:28-27.16(a)1 through 5. The applicant shall take and pass the next radon mitigation specialist examination offered and accrue an additional six months of mitigation work experience as defined in N.J.A.C. 7:28-27.15(a)2 following the examination or the provisional certification becomes null and void. The provisional certification will terminate seven months after the date of the exam unless the applicant submits proof to the Department in writing that he or she meets all the requirements for Certification and requests full certification. The provisional certification may be revoked by the Department if the certified person fails an examination required for certification or violates any of the provisions of the Act, this subchapter or any condition of the provisional certification.

(b) Provisional certification shall be granted to those applicants fulfilling the requirements specified in N.J.A.C. 7:28-27.16(a)1, 2, 5 and 6. Such certification will allow the applicant to accrue the requisite mitigation work experience specified in N.J.A.C. 7:28-27.15(a)2. The provisional certification will terminate seven months after the date of issuance unless the applicant submits proof to the Department in writing that he or she meets all the requirements for certification and requests full certification. The provisional certification may be revoked by the Department if the certified person fails to successfully complete, the continuing education courses or violates any of the provisions of the Act, this subchapter or any condition of the provisional certification.

**7:28-27.18 certification requirements for radon mitigation technicians**

(a) Prior to applying for certification as a radon mitigation technician:

1. An applicant shall have at least two years experience in the building or construction trades, including the heating, ventilation and air conditioning trade;

2. An applicant shall have at least one half year of technical mitigation work experience within the State or a reciprocal agreement state installing radon mitigation systems;

3. An applicant shall have successfully completed a Department approved course or seminar consisting of at least 16 hours of training with emphasis on radon mitigation; and

4. An applicant shall have passed a written examination offered or approved by the Department.



**7:28-27.19 Application requirements for radon mitigation technicians**

(a) A person applying for certification as a radon mitigation technician shall submit the following information on forms provided by the Department:

1. The name, address and telephone number of the applicant;
2. Proof of at least two years of experience in the building or construction trades;
3. Proof of at least one half year of technical mitigation work experience within the State or a reciprocal agreement state;
4. Proof of successful completion of a Department approved course or seminar consisting of at least 16 hours of training with. emphasis on radon mitigation; and
5. Proof of passing a written examination offered or approved by the Department.

## **7:28-27.20 Provisional certification of radon mitigation technicians**

(a) Provisional certification shall be granted by the Department to an applicant fulfilling the requirements specified in N.J.A.C. 7:28-27.19(a)1 through 4. The applicant shall take and pass the next certified radon mitigation technician examination offered and accrue an additional six months of technical mitigation work experience as defined in N.J.A.C. 7:28-27.18(a)2 following the examination or the provisional certification becomes null and void. The provisional certification will terminate seven months after the date of the exam unless the applicant submits proof to the Department in writing that he or she meets all the requirements for certification and requests full certification. The provisional certification may be revoked by the Department if the certified person fails an examination required for certification or violates any of the provisions of the Act, this subchapter or any condition of the provisional certification.

(b) Provisional certification shall be granted by the Department to those applicants fulfilling the requirements in N.J.A.C. 7:28-27.19(a)1, 2, 4 and 5. Such certification will allow the applicant to accrue the requisite technical mitigation work experience required by N.J.A.C. 7:28-27.16(a)2. The provisional certification will terminate seven months after the date of issuance unless the applicant submits proof to the Department in writing that he or she meets all the requirements for certification and requests full certification. The provisional certification may be revoked by the Department if the certified person fails to successfully complete the continuing education courses or violates any of the provisions of the Act, this subchapter or any condition of the provisional certification.

**7:28-27.21 Record keeping requirements for a certified radon measurement business or a certified radon mitigation business**

(a) The certified radon measurement business shall maintain the following records for five years:

1. Records of all radon tests performed including information required in N.J.A.C. 7:28-27.28;

2. Records of all instrument calibration and quality control;

3. Records and results of participation in an authorized proficiency program;

4. Copies of certification for the certified radon measurement specialists and certified radon measurement technicians employed by the business;

5. Copies of the methods and techniques in the authorized measurement protocols used by the certified radon measurement business; and

6. Copies of all applications submitted to the Department and all correspondence between the Department and the certified measurement business.

(b) The certified radon mitigation business shall maintain the following records for five years:

1. Records of all mitigation work performed including, but not limited to, client name, address, diagnostic evaluation results, a brief description of the mitigation system installed, copies of permits required for installation, pre and post mitigation radon measurements including method of measurement, all measurement dates, and the names of the certified measurement business and certified measurement specialist responsible for such measurements;

2. Records of mitigation plans developed, utilized, and **signed** by a certified radon mitigation specialist;

3. Records of all instrument calibration;

4. Copies of all certification applications and all correspondence between the Department and the mitigation business; and

5. Copy of each mitigation contract, including the warranty of equipment installed, signed by the owner of the building mitigated or his/her agent to act on behalf of the owner of the building mitigated.

## **7:28-27.22 Renewal of certification**

(a) A certification will be valid for one year following the date of issuance. No radon measurement, mitigation, or safeguard activity shall be conducted after the expiration of the term of a certification unless an application for renewal certification has been received by the Department 30 days prior to the expiration date of the certification and is pending approval. If the renewal application is rejected by the Department, no radon measurement, mitigation or safeguard activity may be conducted after receipt by the applicant of notice of rejection.

(b) An application for a renewal certification shall contain all the information required in an initial certification, proof of successful completion of the continuing education requirements for the requested certification and the proper fee.

i. For a certified mitigation business, renewal of certification shall, in addition to the initial application requirements, be based on the effectiveness of the previous years, mitigation systems installed.

ii. Upon completion of the final mitigation system installation, a post mitigation radon measurement test shall be conducted. If the post mitigation test is short term, it must be conducted at least in the lowest livable area. The lowest livable area, such as the basement, does not have to be finished or even used as livable space. If this test is at or below 4 pCi/l the mitigation is deemed effective. If the post mitigation test result is above 4 pCi/l, a long term radon test must be conducted in the lowest living area of the house. If the result of this test is at or below 4 pCi/l the mitigation is deemed effective.

(c) A certified person, in order to maintain his or her certification, shall accumulate continuing education credits consisting of lectures offered or approved by the Department each certification year. The courses shall be successfully completed during the certification year and shall include the following minimum number of hours of instruction:

1. Eight hours for maintaining certification as a radon measurement specialist;

2. Four hours for maintaining certification as a radon measurement technician;

3. Eight hours for maintaining certification as a radon mitigation specialist; and

4. Four hours for maintaining certification as a radon mitigation technician.

(d) A certified radon measurement business in order to maintain certification, shall participate in an authorized proficiency program and pass one proficiency test each certification year for each type of measurement equipment offered.

1. This requirement may be met by applicants who have charcoal canisters, alpha track detectors or other devices analyzed by certified radon laboratories by submitting reports indicating the laboratory's successful completion of proficiency tests.

2. If there are no proficiency tests available during the certification year for businesses which utilize portable instrumentation, such as continuous working level monitors or continuous radon monitors, the businesses shall show proof of registration in an authorized proficiency program and proof of at least two equipment instrumentation calibrations during the certification year.

## **7:28-27.23 Reciprocity**

(a) The Department may waive initial certification review where an applicant has previously been certified in another state or territory of the United States of America pursuant to a valid certification test given in that state or territory of the United States, provided that the commissioner, by cooperative agreement, has previously recognized such state or territory as having adopted a certification program at least as stringent as New Jersey's.

(b) A New Jersey radon measurement or mitigation certification will be issued pursuant to this section provided the Following conditions are satisfied:

1. The Department receives proof of a valid certification from any state or territory which has been officially recognized by the State of New Jersey as having a certification program at least as stringent as New Jersey's and which has signed a reciprocity agreement with the State of New Jersey relating to the reciprocal certification of radon testers and mitigators;

2. The Department receives a complete application from the applicant;

3. The applicant demonstrates to the Department a knowledge of relevant New Jersey radiation and radon laws and rules; and

4. The Department receives all applicable fees.

## 7:28-27.24 Inspections

(a) The Department and its representatives may enter and inspect any site, building or equipment, or any portion thereof, owned or operated by an applicant or by the certified radon measurement or mitigation business, at any time, in order to ascertain compliance or non-compliance with the Radiation Protection Act, N.J.S.A. 26:2D-1 et seq., this subchapter, any certification, or any other agreement or order issued or entered into pursuant thereto. Such right shall include, but not be limited to, the right to test any equipment at the facility, to sketch or photograph any portion of the site, building or equipment, to copy or photograph any document or records necessary to determine such compliance or non-compliance, and to interview any employees or representatives of the owner, operator or applicant. Such right shall be absolute and shall not be conditioned upon any action by the Department, except the presentation of appropriate credentials as requested and compliance with appropriate standard safety procedures.

(b) Certified businesses or applicants, and any employees or representatives thereof, shall assist and shall not hinder or delay the Department and its representatives in the performance of all aspects of any inspection. This assistance includes allowing the Department and its representatives to accompany the certified person while performing any measurement, mitigation or safeguard activity, at a particular building or property for the purpose of inspection of those activities. During such inspections by the Department, the certified person shall use all sampling and measurement equipment under normal routine operating conditions or under such other conditions as may be requested by the Department. The certified person, shall, upon request, make available such sampling and measurement equipment to the Department for the purpose of making comparative measurements.

(c) Upon request, a certified business shall make known to the Department's representatives, the owners, residents, and addresses of properties or buildings where radon measurement, mitigation, or safeguard activities are scheduled, in progress, or completed for the purpose of possible inspection by the Department. This assistance shall also include deploying Department sampling devices alongside the businesses device and returning the Department sampling devices to a designated location.

## **2:28-27.25 Denial, suspension, or revocation of a certification.**

(a) The Department may refuse to issue a certification or renewal certification to any person who is not in compliance with all of the provisions of the Act or this subchapter.

(b) The Department may suspend a certification for one or all techniques or devices for which a person is certified by reason of amendments to the Act or adoption of rules promulgated pursuant to the Act, or if the person;

1. Violates any requirements of the certification;
2. Violates a statute, rule, or order of the Department;
3. makes misrepresentations to the Department on any report, record, or application requirement.
4. Fails to comply with any of the requirements of this subchapter;
5. Changes personnel or techniques without disclosure thereof to the Department;
6. **Does not pay the applicable fees;**
7. Fails to submit required reports to the Department in a timely manner;
8. Offers or performs tests not in conformance with the authorized measurement protocols.
9. offers or performs services for which he or she is not certified;
10. Makes false or misleading claims with regard to any products or tests and/or services offered;
11. Records faulty measurements or installs malfunctioning or ineffective mitigation systems.
12. Fails to consistently demonstrate effectiveness of mitigation systems, methods or procedures in reducing radon levels in buildings.
  - i. Upon completion of the final mitigation system installation, a post mitigation radon measurement test shall be conducted. If the post mitigation test is short term, it must be conducted at least in the lowest livable area. The lowest livable area, such as the basement, does not have to be finished or even used as livable space. If this test is at or below 4 pCi/l the mitigation is deemed effective. If the post mitigation test result is above 4 pCi/l, a long term radon test must be conducted in the lowest living area of the house. If the result of this test is at or below 4 pCi/l the mitigation is deemed effective.



13. Does not pass the required proficiency tests.

14. Fails to adhere to the approved quality assurance or radiological safety plan.

15. Fails to grant access to Department employees or agents for inspections.

16. Does not have on staff, in accordance with N.J.A.C. 7:28-27.5, a technician who has currently passed the proficiency test required for initial or renewal certification.

(c) Suspensions shall be effective immediately upon receipt of the suspension notice by the violator.

1. Suspension notices shall be served by way of certified mail return receipt requested or by personal service.

2. The suspension notice will:

i. Identify the section of the Act, rule, administrative order, or certification violated;

ii. concisely state the facts which constitute the violation.

iii. order the violation to cease;

iv. Specify the duration of the suspension;

(d) A suspension will not be of a duration of more than four months except when all bases for the suspension have not been eliminated or rectified.

1. specific: suspension periods will be determined by the Department according to the severity of the violation.

(e) Suspensions will not be withdrawn until all bases for the suspension have been eliminated or rectified.

1. If the person is suspended for a violation involving faulty measurements, the person shall take and pass a proficiency test before the suspension will be withdrawn.

(f) The Department may revoke a certification upon request submitted by the certified person to the Department.

(g) The Department may revoke a certification in one or all techniques or devices for which a person is certified by reason of amendments to the Act, adoption of rules, pursuant to the Act or suspension notice issued pursuant to the Act or if the applicant;

1. Continues to test and/or mitigate while the person's certification is suspended;

2. violates a provision of this subchapter for which he/she has been suspended;

3. Fails to grant access to Department employees or agents for inspections;

4. Demonstrates a pattern of recording faulty measurements or installs malfunctioning mitigation systems or installs mitigation systems which do not consistently demonstrate effectiveness.

i. Upon completion of the final mitigation system installation, a post mitigation radon measurement test shall be conducted. If the post mitigation test is short term, it must be conducted at least in the lowest livable area. The lowest livable area, such as the basement, does not have to be finished or even used as livable space. If this test is at or below 4 pCi/l the mitigation is deemed effective. If the post mitigation test result is above 4 pCi/l, a long term radon test must be conducted in the lowest living area of the house. If the result of this test is at or below 4 pCi/l the mitigation is deemed effective;

5. **Performs testing or mitigation services not contained in the person's certification;**

6. Fails to pass a proficiency test for the requested certification;

7. Endangers the public health, safety and welfare;

8. operates in such a manner so as to cause harm, injury or damage to persons, property or the environment or poses a significant risk of harm, injury or damage;

9. Aids, abets, combines with, or conspires with any person for any purpose which will evade or be a violation of the provisions of the Act, this subchapter or his or her certification;

10. Does not have on staff, in accordance with N.J.A.C. 7:28-27.5, a technician who has currently passed the proficiency test required for initial or renewal certification.

11. Commits any of the acts in (b) above authorizing a suspension.

(h) Revocations shall be effective immediately upon receipt of the revocation order by the violator.

1. Revocation orders shall be served via certified mail return receipt requested or by personal service.

2. A recipient may request a hearing on his or her certification revocation within 20 days of receipt of the notice.

3. A revocation order shall:

i. Identify the section of the Act, rule, suspension notice, or certification violated;

ii. Concisely state the facts which constitute the violation;

iii. order the violation to cease;

iv. Advise the violator of the right to request an adjudicatory hearing pursuant to the procedures in N.J.A.C. 7:28-27.27.

(i) Revocations shall be of a duration of not more than two years unless all bases for the revocation have not been eliminated or rectified.

1. Specific revocation periods will be determined by the Department according to the severity of the violation.

(j) Revocations will not be withdrawn until all bases for the revocation have been eliminated or rectified.

1. A person whose certification has been revoked cannot apply for any certification authorized by this subchapter until the entire revocation period has expired.

2. A person applying for a new certification after his or her certification has been revoked and the revocation period has been completed shall comply with all the provisions of this subchapter in order to receive a new certification.

(k) Upon voluntary or involuntary revocation, a certified person shall immediately surrender his or her certification documents to the Department.

(l) Use of any remedy under this section shall not preclude the use of any other remedy available to the Department.

**7:28-27.26 Criminal penalties**

(a) Any person who violates N.J.S.A. 26:2D-72, 73, or 74 or any rule or regulation adopted pursuant N.J.S.A. 26:2D-72, 73, or 74 shall be guilty of a crime of the third degree.

(b) Use of any remedy under this section shall not preclude the use of any other remedy available to the Department.

## **7:28-27.27 Request for adjudicatory hearing**

(a) Within 20 calendar days from receipt of a certification denial, refusal to renew or revocation issued by the Department pursuant to N.J.A.C. 7:28-27.25, the applicant may request an adjudicatory hearing to contest such action by submitting a written request to the Department which shall include the following information:

- i. Name, address, and telephone number of the applicant.
2. Identification of the applicant's certification category, that is, radon measurement business, specialist, or technician or radon mitigation business, specialist, or technician.
3. The applicant's factual position on each question alleged to be at issue, its relevance to the Department's decision, specific reference to the contested conditions as well as suggested or revised or alternative conditions.
4. Information supporting the applicant's factual position and proposed conditions and a copy of other written documents relied upon to support the request for a hearing.
5. An estimate of the time required for the hearing (in days, and/or hours); and
6. A request if necessary for a barrier free hearing location for disabled persons.

(b) A hearing request not received within 20 days after receipt by the applicant of a certification denial or revocation issued by the Department pursuant to N.J.A.C. 7:28-27.25, shall be denied by the Department.

(c) If the applicant fails to include all of the information required by (a) above, the Department may deny the hearing request.

(d) If it grants the request for a hearing, the Department shall file the request for a hearing with the Office of Administrative Law. The hearing shall be held in accordance with the Administrative Procedure Act, N.J.S.A. 52:14B-1 et. seq. , and the Uniform Administrative Procedure Rules N.J.A.C. 1:1.

## 7:28-27.28 Reporting requirements

(a) A certified radon measurement business shall submit to the Department by the first day of each month the results of all radon and radon progeny measurements performed during the second previous month. For example, the results from May testing are to be submitted July 1. Data shall be submitted in the format and the media required by the Department. For each test conducted, this data shall include, but not necessarily be limited to:

1. Name of owner and resident, street address, municipality, county and zip code of location where testing was performed.

2. The type of equipment used for radon and/or radon decay product testing according to the authorized measurement protocols, media tested, and conditions under which testing was performed.

3. The level or floor of the building where tests were conducted.

4. The results of the test in picocuries/liter (pCi/l) of radon gas or working level (WL) of radon decay products.

5. The date and start and completion times when the test was conducted.

6. The purpose of the test, for example, screening, follow-up, diagnostics, pre-mitigation, post-mitigation.

7. The certified radon laboratory performing analysis of the sample devices.

8. The type of building the test was performed in: residential or non-residential.

9. Who performed the sampling: building owner or certified radon professional.

10. Whether the test was conducted as part of a real estate transaction.

(b) The certified radon measurement business shall report test results for radon and radon progeny directly to the owner of the building and the Department. Radon results shall be reported in picocuries per liter (pCi/l), decay product results shall be reported in working levels (WL).

The report provided to the owner shall include the following statements:

"This notice is provided to you by an organization or individual certified by the New Jersey Department of Environmental Protection to perform radon and/or radon progeny measurements. N.J.S.A. 26:2D-73 requires that no certified person disclose to any individual, except the Department of Environmental Protection or the Department of Health the address or owner of a non public building that the person has tested or treated for the presence of radon gas and radon progeny, unless the owner of the building waives, in writing, this right of confidentiality. In the case of a prospective sale of a building which has been tested for radon gas and/or radon progeny, the seller shall provide the buyer, at the time the contract of sale is entered into, with a copy of the results of that test and evidence of any subsequent mitigation or treatment, and any prospective buyer who contracts for the testing shall have the right to receive the results of that testing. Any questions, comments, or complaints regarding the persons performing these measurements, or related mitigation, or safeguarding services should be directed to the New Jersey Department of Environmental Protection. Attention: Radon Section, Bureau of Environmental Radiation (1-800-648-0394)."

1. Notwithstanding other remedies available to the Department, a person shall be guilty of a crime of the third degree for reporting radon/radon progeny test results to any person other than the owner of the building tested, the Department or in the case of a prospective sale, the buyer who contracts for the testing.

(c) A certified radon measurement business and certified radon mitigation business, prior to any mitigation work, shall provide to each client or his/her agent a copy of the most recent version of the Department's publication titled "Guidance on Performing Screening and Follow-up Measurement Tests."

(d) A certified radon measurement business shall clearly identify to his or her clients the certified radon laboratory used, if any, to analyze the devices. The certified radon measurement business may either send a copy of the original laboratory results to the client or clearly state next to the results reported to the client, the name of the certified radon laboratory and its Department certification number.

(e) A radon mitigation business shall submit to the Department by the first day of each month a report on all mitigation work performed during the second previous month. Reports shall be submitted on forms provided by the Department and shall include at a minimum:

1. The name and address of the owner and resident of the building in which mitigation work was performed and the type of building that was mitigated, either residential or nonresidential;

2. A description of the mitigation work performed in each building, specifying the type of mitigation systems installed and the date of installation;

3. All pre and post-mitigation radon test results, test dates, methods of measurements, and level of building on which tests were performed and the name of the certified measurement business performing tests; and

4. The certified radon mitigation business shall include in all mitigation contracts the following statement:

"This notice is provided to you by an organization or individual certified by the New Jersey Department of Environmental Protection to perform radon mitigation or safeguarding services.

At some time in the near future, a representative of the Department of Environmental Protection may contact you to ask your permission to visit your building. The purpose of this visit would be to inspect the recently installed mitigation system.

Any questions, comments or complaints regarding the persons performing these mitigation or safeguarding services should be directed to the New Jersey Department of Environmental Protection, Attention: Radon Projects Section, Bureau of Environmental Radiation (1-800-648-0394)."

(f) The certified radon mitigation business shall include in all mitigation contracts a statement on the possible adverse side effects produced by the operation of the proposed mitigation system. This statement shall include a discussion of the possible types of energy costs incurred in operating the system.



**7:28-27.29 Liability of certified radon measurement or radon mitigation business for actions of employees**

(a) Notwithstanding the responsibility of any other person or the exemption from the provisions of any other section of this subchapter, any certified radon measurement or radon mitigation business shall be responsible for any violation of the Act committed by an employee in the scope of his or her employment. This responsibility shall be joint and several.

## **7:28-27.30 Fees**

(a) All persons wishing to become certified or renew their certification shall submit to the Department a non-refundable application fee and annual application renewal fee in accordance with fee schedule A.

(b) All persons taking the certification examination shall submit a non-refundable examination fee in accordance with fee schedule A.

(c) All persons taking a course offered by the Department shall submit a non-refundable course fee in accordance with fee schedule A.

(d) in addition to the fees in schedule A, a program administration fee shall be submitted to the Department by a certified radon measurement business in accordance with schedule B.

(e) In addition to the fees in schedule A, a program administration fee shall be submitted to the Department by a certified radon mitigation business in accordance with schedule C.

(f) Fees specified in (d) and (e) above shall be submitted semi-annually to the Department at the address specified on the certification application.

(g) The above fees shall be used to cover the cost of Department implementation of the certification provisions of this subchapter.

### 7:28-27.31 Exemptions

(a) The certification requirements of this subchapter shall not apply to:

1. Those persons testing or mitigating buildings that they own.
2. Those persons incorporating construction techniques outlined in N.J.A.C. 5:23-10; however, mitigation system installation must be done by persons certified pursuant to N.J.A.C. 7:28-27.
3. Those persons performing specific construction tasks under the direct supervision of a certified radon mitigation specialist or certified radon mitigation technician.
4. Those persons who sell or offer for sale at a retail outlet radon measurement devices, such as charcoal canisters, provided that:
  - i. The radon measurement devices are manufactured or supplied by a certified radon measurement business;
  - ii. The analysis, result, and interpretation of such tests are performed and sent directly to the purchaser by the certified radon measurement business;
  - iii. Consultation on radon is provided only by a certified radon measurement business;
  - iv. Measurement devices are not being placed in buildings to be analyzed by uncertified persons;
  - v. The measurement devices are stored and displayed in a manner that maintains their integrity.
5. Those persons testing for or mitigating radon and/or radon progeny, as part of scientific research approved by the Department or as a public service without remuneration approved by the Department.

## 7:28-27.32 Examinations

(a) All applicants for initial certification shall take and pass a written examination offered or approved by the Department. Examinations will be offered at least three times each calendar year. Examinations will cover, but not be limited to, the following:

1. For certification as a radon measurement specialist:

i. The basic principals of radioactivity, interaction of radiation with matter, units of radiation measurement, biological effects of radiation exposure, radon related detection methods and instrumentation, radon measurement protocols, risk assessment and communication, State or Federal radiation programs, recommendations and guidelines related to radon measurement, diagnostic and mitigation methods, and quality, assurance/quality control programs.

2. For certification as a radon measurement technician:

i. The basic principals of radioactivity, interaction of radiation with matter, units of radiation, radon and radon progeny measurement protocols, risk assessment and communication, State and Federal radiation programs, recommendations and guidelines related to radon and radon progeny measurements, diagnostic and mitigation methods, and quality assurance/quality control programs.

3. For certification as a radon mitigation specialist:

ii. Radon mitigation diagnostics, mitigation methods, radon transport and entry, follow-up testing procedures, and health effects of radon and radon progeny.

4. For certification as a radon mitigation technician:

i. Radon mitigation methods, construction codes, radon transport and entry into buildings and worker protection and health effects of radon exposure.

## 7:28-27.33 Elements of quality assurance plans

(a) Those firms wishing to obtain certification in New Jersey in the radon measurement business category shall prepare and submit quality assurance/quality control (QA/QC) plans for radon testing services offered to the public to the Department. The plans shall contain the following information as it pertains to the activities of the business:

1. A title page including:
  - i. The title of the document -- Quality Assurance/Quality control Plan for Radon Measurement;
  - ii. The authors' names;
  - iii. The authors' organization;
  - iv. The business name and address; and
  - v. The month and year the document was prepared.
2. A table of contents
3. A description of the business' organization and lines of responsibility including:
  - i. If the firm has more than five employees, a chart or figure showing the firms organization and line of authority;
  - ii. The designation of persons performing quality assurance functions and their relationship to the firm's management structure;
  - iii. The names of the firm's certified radon measurement specialists;
  - iv. The names of the firm's certified radon measurement technicians; and
  - v. The name of other key individuals responsible for analysis, or data assessment.
4. A description of sampling procedures for each type of measurement equipment for which certification is being sought to include:
  - i. Deployment procedures, including the desirable locations at which devices are to be placed;
  - ii. The environmental conditions desired during the test period;
  - iii. Equipment operation procedures;

iv. copies of instructions to clients if testing devices are mailed;

v. The test period in days, hours, months, etc; and

vi. The procedures used by the firm to ensure that technicians understand and follow the procedures.

If the radon measurement business is or works with a certified radon laboratory, the sampling procedures described shall coincide with the laboratory quality assurance/quality control requirements, for example, for duplicate analysis.

i. References can be made to the authorized measurement protocols and copies of these need not be included.

6. A description of sample tracking/chain of custody procedures used to track detector receipt, and delivery between the business and the certified radon laboratory as appropriate, including:

i. The name and duties of the detector custodians who sign for incoming field samples and verifies the entry of pertinent information into custody records;

ii. The data tracking information required to be entered on the businesses' tracking forms; and

iii. Samples of tracking forms.

7. Analytical procedures for portable instruments to include, for each radon/radon progeny testing method for which the business performs analysis of samples, a list of instrument procedures and calculations used, and the equipment used.

8. A description of procedures for calibration and maintenance of portable instruments including:

i. The calibration equipment and procedures used for both pumps and measurement equipment, and formulas for calculating calibration factors;

ii. The frequency at which calibrations of each piece of equipment, both pumps and measurement, are performed shall be given. Said calibrations of equipment, both pumps and measurement, shall occur at least twice a year;

iii. The calibration standards or sources used and their traceability. Include whether calibrations are performed in a radon chamber and/or by other methods; and

iv. Equipment maintenance procedures.

9. A description of internal quality control procedures for portable instruments.

10. Data reduction and reporting procedures including:

i. The data reduction scheme planned for all analytical data from portable instruments;

ii. Methods used to identify and treat anomalous data; and

iii. The names or positions of key individuals who will handle data and be responsible for reporting results to clients and maintaining appropriate confidentiality.

11. Corrective action procedures including:

i. The predetermined limits for data acceptability beyond which corrective action is necessary;

ii. The corrective action to be taken; and

iii. The names or positions of individuals responsible for initiating and approving the corrective actions.

12. A brief description of the quality assurance reports that will be submitted to the businesses' management including:

i. The periodic assessment of measurement accuracy and precision;

ii. Results of intercomparisons and calibrations;

iii. The results of any internal or external audits; and

iv. All significant quality assurance/quality control problems encountered and recommended solutions.

## 7:28-27.34 Minimum requirements for radiological safety plans

(a) All new employees or consultants of a certified radon measurement business or certified radon mitigation business who will be entering structures with unknown radon levels or radon levels above 4 picocuries per liter (pCi/l) for purposes of radon or radon progeny measurements or designing, installing or repairing radon mitigation systems shall be instructed by the certified radon measurement specialist or certified radon mitigation specialist of the business on proper radiation safety practices prior to entering such a structure, in accordance with the businesses' radiological safety plan. Each new employee shall be required to take and pass a test on radiation safety developed by the certified radon measurement or certified radon mitigation specialist. The passing level of the test shall be determined by the certified radon measurement or mitigation specialist.

(b) The certified radon measurement or certified radon mitigation business is responsible for the radiological safety of all their employees.

(c) Refresher radiation safety training of workers shall be conducted at a minimum of once annually.

(d) At a minimum, the practices identified below shall be followed by all radon testers and mitigation workers entering buildings where the radon level is unknown or above 4 (pCi/l).

1. For radon testing:

i. Limit the amount of time spent in elevated radon areas, for example, basements, crawl spaces;

ii. Respond to questions or concerns of clients in a low radon area, for example, upper floors or patios during field visits;

iii. Analyze samples in a low radon area. An exception would be those cases in which continuous real time monitoring is used to monitor mitigation system performance or to alert workers to the presence of high radon levels;

iv. Calibrate/set up radon testing equipment prior to entering an elevated radon area.



2. For radon mitigation work:

i. The pre-mitigation radon test result from the building in which a mitigation system is being installed shall be made known to all mitigation workers by the certified radon mitigation specialist prior to beginning mitigation work. The radon or radon progeny level from this test shall be entered on the Radon Exposure Tracking Form specified in (n) below;

ii. Building areas where mitigation work is being performed shall be ventilated during the work period to the extent practicable;

iii. The time spent in areas with potentially high radon concentrations, for example, crawl spaces, and other confined spaces should be limited, to the extent consistent with performing diagnostic work;

iv. Work breaks/lunches shall not be taken in elevated radon areas;

v. Exhaust gases from sub-slab suction systems shall be vented outdoors, preferably above the roof eaves and away from potentially occupied areas;

vi. only the number of persons necessary to carry out mitigation work shall be present in the building being mitigated; and

vii. Smoking by employees shall not be permitted in buildings being mitigated.

(e) Each certified radon measurement and mitigation specialist and technician shall track their exposure to radon progeny if a potential for exposure exceeds one working level month per year (WLM/year) . This may be done by wearing a passive long term, meaning greater than three months, radon detector during work periods or keeping records in accordance with the Radon Exposure Tracking Form set forth in (o) below.

(f) The certified radon mitigation specialist or certified radon measurement specialist shall be responsible for tracking exposures of workers utilized by the business if there is potential for exceeding one WLM/year exposure.

(g) The certified radon mitigation specialist or certified radon measurement specialist shall review exposures on a quarterly basis and compute estimated exposures for each person cited in (e) and (f) above. Annual cumulative exposures shall also be estimated.

(h) Individual workers with estimated work related exposures exceeding two WLM/year shall not be assigned mitigation work in higher radon level buildings on a continuing basis.

(i) The certified radon mitigation specialist shall notify workers in writing of estimated exposures quarterly. At any time when estimated exposure of a worker could potentially exceed four WLM/year, an investigation shall be conducted and actions shall be taken to reduce exposure to the worker.

(j) No employee shall be permitted to receive exposure from inhalation of radon progeny in excess of four WLM/year in one calendar year.

(k) Exposure records shall be maintained by the business for each worker exposed to elevated radon levels, on a continuing basis. cumulative exposures for each quarter and each year of employment shall be recorded.

(l) Records of worker radiation safety training and annual refresher courses shall be maintained by the business during and at least one year after the employee terminates his or her employment. These records shall include date of training, instructor, length of session, and topics covered.

(m) Records which indicate each employees performance on the radiation safety test shall be maintained by the business along with copies of the test which was given.

(n) Safety records shall be available for inspection by the Department during normal business hours at the place of business.

(o) RADON EXPOSURE TRACKING FORM

DATE OF MEASUREMENT	RADON/RADON PROGENY LEVEL (pCi/l or WL)	DATE OF EXPOSURE	TIME EXPOSED (HRS)	VENTILATION CONDITIONS DURING EXPOSURE (windows open/ fan/closed house)
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### **7:28-27.35 Temporary Certification**

(a) The Department may allow for a radon measurement business, N.J.A.C. 7:28-27.5 and 6, and a radon mitigation business, N.J.A.C. 7:28-27. 7 and 8, a temporary certification for up to one year if that business is listed, as of January 1, 1990, on the Department's list of approved radon testing and mitigation firms, (and) the firm submits a complete application for certification within 90 days of the date of adoption of this subchapter, and the firm submits proof that it employs certified individuals.

(b) The period of temporary certification shall start at the end of the ninety day period and extend for one year, or until the Department completes its review of the application and approves or denies a certification or provisional certification in accordance with the requirements of this subchapter, whichever occurs sooner.

Date:

Judith A. Yaskin,  
Commissioner Department of  
Environmental Protection