QUALITY ASSURANCE PLAN
FOR
NON-PORTABLE DEVICES

Devices covered in this plan are as follows:

☐CHARCOAL CANISTER (CC)

☐CHARCOAL LIQUID SCINTILLATION (CLS)

☐ALPHA TRACK DEVICES (AT)

Name of Measurement Business

Measurement Business Address

Measurement Business Certification Number

Date document was prepared

Name of Measurement Specialist: _____

Signature: _____

Date: _____

Table of Contents

A. Organization

Title of individual who signed the current business application_____Title_____

The business may have one or more affiliated measurement specialists who oversee the daily operations of the business, including performing the required quality assurance and quality control functions and managing the affiliation process and all affiliates.

The reporting structure between the individual who signed the application, the measurement specialist(s), and the affiliates is as follows:

_____
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B. Introduction

Quality assurance (QA) consists of activities required to provide confidence that measurement data are of the required precision and accuracy. Quality Control is the process which allows an organization to compare their measurements to acceptable standards. A QA program adds to an individual's understanding of the methods they use and provides early detection of problems so that they can be rectified quickly and completely.

The purpose of this QA plan is to: set policies, performance goals, and objectives; identify responsibilities; establish procedures for assessing performance relative to quality; and to define corrective actions when needed. Only with such documentation can the validity of measurement results be defended. The QA plan defines the commitment to provide customers with accurate, valid, reproducible, and defensible radon measurements which may be used to make critical decisions about radiation related environmental health.

C. Business and Affiliate Responsibilities

The business and all affiliates submit an annual renewal application in accordance with N.J.A.C. 7:28-27.

If changes in certification information are made after renewal, an amendment is required in accordance with N.J.A.C. 7:28-27.3(j) by submitting to the Department, in writing, the information to be changed. The amendment will be operative and implemented only after the Department reviews, approves, and confirms the change in writing.

_____MEB Name_____ will, at all times, maintain affiliation with at least one certified

radon measurement specialist or an individual who has received an acknowledgment notice to become a radon measurement specialist.

This QA plan is prepared in accordance with N.J.A.C. 7:28-27.14 to ensure the reliability and validity of radon measurements. It will be provided to each affiliate upon affiliation, annually, and whenever revisions are made to the procedures that the affiliates must follow.

D. Measurement Procedures

All radon testing will be performed in accordance with N.J.A.C. 7:28-27, the authorized measurement protocols for each building type, and the business's certification, QA plan, and radiological safety plan. Testing will be conducted by an affiliate only with a device that is identified on the business certification and is listed on a nationally recognized organization's approved list of test equipment that can be used to test for radon.

E. Device Information

Testing will be conducted by an affiliate only with a non-portable device that is listed below:

Device Type (CC, CLS, AT)	Device Code (NRPP or NRSB)	Manufacturer/Model	Analytical Laboratory	OQA Certified Lab #

MEB Name has been approved by the Department to use these non-portable devices.

The laboratories that analyze these devices are certified by the Department's Office of Quality Assurance in accordance with N.J.A.C. 7:18; therefore, the laboratory QA is not discussed in this plan since it is under the authority of the Office of Quality Assurance.

Manufacturers operating instructions are available.

F. Direction of the Daily Business Operations

One or more certified radon measurement specialists will direct the daily operation of the business. They will:

1. Ensure that the business and its affiliates are in compliance with the business's most recent certification and N.J.A.C. 7:28-27.
2. Prepare and sign affiliation forms.
3. Review the chain of custody form and client report for all tests.
4. Approve, verify, and sign the reports sent to the client and to the Department.
5. Prepare, sign, implement, and ensure compliance with the QA plan.
6. Prepare, sign, implement, and ensure compliance with the radiological safety plan.
7. Ensure that the required records are kept.
8. Prepare and submit the business's annual certification application, and amend the certification as needed throughout the year.
9. Ensure that duplicates and blanks are within the control limits or take appropriate actions.

G. Building Types and Testing Protocols

The current building types MEB Name and affiliates are approved to test and the protocols that must be followed are CHECKED below:

☐ Residential single-family buildings following the most current revisions of "Protocol for Conducting Measurements of Radon and Radon Decay Products in Homes," ANSI/AARST MAH-2019 as supplemented and amended

☐ Residential multifamily buildings (apartment, townhouse, condominium, other) following the most current revisions of "Protocol for Conducting Measurements of Radon and Radon Decay Products in Multifamily Buildings," ANSI/AARST MAMF-2017 as supplemented and amended

☐ Non-residential large buildings following the most current revisions of "Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings," ANSI/AARST MALB-2014 as supplemented and amended

☐ Schools following the most current revisions of "Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings," ANSI/AARST MALB-2014 as supplemented and amended

An affiliate can only test multifamily, large and/or school buildings if he or she has taken the required eight-hour training course for these building types. The affiliate will provide MEB Name with a copy of the training course certificate so the name of all affiliates who will test these building types can be identified on the business application or via amendment to the business certification.

H. Chain of Custody

A chain of custody form must be completed in its entirety for every device. An affiliate must completely fill in 1 through 19 below for each test. Numbers 7 and 14 through 17 must be filled in while in the field performing the test. An individual not subject to certification, such as a building owner, must fill in 1 and 3 through 17 below for each test.

1. Test location including address, city, State, zip code, incorporated municipality, and county
2. Client address, city, State, and zip code, if different than test location
3. Device
4. Device model number for portable devices
5. Device serial number or reference number
6. Floor where the test was conducted: zero is the basement, one is the first floor, etc.
7. Whether closed building conditions, as provided in the applicable authorized measurement protocol, were met
8. The type of building in which the test was performed: residential, non-residential, or school
    a. If the building is residential, whether it is a single-family, condominium, townhouse, apartment or other building; and
    b. If the building is a school, the school's name, New Jersey Department of Education school code, and room number of the location tested
9. Structure type: basement, crawlspace, slab on grade, or combination
10. Test type: standard, blank, or duplicate
11. Whether the test was conducted at a child care center
12. Whether the test was conducted as part of a real estate transaction
13. Whether the test was conducted after mitigation
14. The certification number of the individual or the signature of the owner who deployed the device
15. The time and date the device was deployed
16. The certification number of the individual or the signature of the owner who retrieved the device
17. The time and date the device was retrieved
18. The NJDEP certification number of the radon laboratory analyzing the device

Only chain of custody forms that are approved by the Department as part of the business application or as an amendment will be used for testing. Affiliates must ensure that they are using the correct chain of custody form for each test.

Department-approved chain of custody forms are attached for each device and building type.

I. Testing Instruction Document for Homeowners

When a device is provided to an individual not subject to certification, such as a building owner, the package will include a chain of custody form (as discussed in H above) and a testing instruction document. The document includes:

1. Testing requirements explained in detail in accordance with the authorized measurement protocols
2. The requirement to complete the chain of custody form fields (as discussed in H above)
3. Directions for the return of the device to the business

Only a testing instruction document that is approved by the Department as part of the business application or as an amendment will be used for testing.

The testing instruction document is attached.

J. Quality Control Measures

Duplicate Testing

All tests must be duplicate tests for time-sensitive tests in accordance with the ANSI/AARST protocols in section G above.

For all other types of testing, duplicate testing requirements are as follows and as specified in the authorized radon measurement protocols for specific building types:

1. Throughout each month, the business will ensure that the lesser of 10 percent duplicates or 50, for each device type, aredistributed among New Jersey tests conducted by affiliates and individuals not subject to certification, such as a building owner.
2. Duplicate testing will be conducted as per the applicable radon measurement protocols.
3. The relative percent difference (RPD) will be calculated for each duplicate pair and the following minimum criteria will be used for all duplicate analyses:

Average of the two test devices	Warning Limit Triggered	Control Limit Triggered
≥ 4.0 pCi/L	RPD > 28.0%	RPD > 36.0%
2.0 – 3.9 pCi/L	RPD > 50.0%	RPD > 67.0%
< 2.0 pCi/L	Absolute value of the difference between the two tests is >1 pCi/L if both tests are above the minimum detectable concentration	n/a

4. If more than five percent of the checks fall within the warning limit or more than one percent of the checks fall outside the control limit for a device, an investigation will be conducted, corrective action will be taken, and the investigation and corrective action will be documented in writing.
5. If the limit continues to be exceeded, the affected device(s) will be taken out of service until the problem is identified, corrected, and documented in writing.

Blank Testing

Blank testing requirements are as follows:

1. Throughout each month, the business will ensure that the lesser of five percent blanks or 25 are conducted and distributed among New Jersey tests conducted by affiliates and individuals not subject to certification, such as a building owner.
2. If blank results fall outside the control limit of > Minimum Detectable Concentration, an investigation will be conducted, corrective action will be taken, and the investigation and corrective action will be documented in writing.
3. If the limit continues to be exceeded, the affected device(s) will be taken out of service until the problem is identified, corrected, and documented in writing.
4. Devices for blank measurements will be distributed, along with instructions for deploying the devices among all the places where the devices are stored, transported, and deployed, including:
   a. Side-by-side with the test
   b. At the certified business's location
   c. At the affiliate's office and storage area
   d. In the vehicles that transport the devices
5. Blank devices will be distributed and deployed in the following manner:

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Report to Management

Each calendar quarter, a certified specialist responsible for the daily operations of the business will prepare and submit to the individual who signed the application in accordance with N.J.A.C. 7:28-27.4, a written report of the results of duplicate and blank tests, , and any corrective action.

K. Data Validation and Reporting

A radon test is identified as invalid if the test does not meet the requirements of the authorized measurement protocols, the QA plan, or N.J.A.C. 7:28-27. When a test is invalidated:

1. The reason for invalidating the test will be clearly documented on the client report form.
2. The test result will not be reported on the client report form or otherwise provided to the client.
3. The test will not be reported to the Department.
4. A record of the invalid test will be kept and available for inspection by the Department.

A valid radon test is reported to the Department or to the client only when the test is performed by an affiliate or by an individual not subject to certification, such as a building owner, and it is reviewed by a measurement specialist.

Test results may be disclosed by the business as follows:

1. To the individual owner of the building.
2. To the individual identified in N.J.A.C. 7:28-27.3(c) when the owner of the building is other than an individual.
3. To the buyer in the case of a prospective sale when the buyer contracts for the test.
4. To the certified individual who performed the test.
5. To the owner's legal representative, including an attorney or real estate agent, acting in accordance with a written agreement the attorney or agent has with the owner.
6. To anyone when a confidentiality waiver form is signed by the owner.

Only client reports that are approved by the Department as part of the business application or as an amendment will be used for reporting. _____MEB Name_____ client reports include the following information:

1. Business name, address, telephone number, and certification number;
2. Device;
3. Laboratory name and certification number, for non-portable devices;
4. Owner's address;
5. Address tested, if different from 5 above;
6. Test start date and time;
7. Test stop date and time;
8. Floor tested;
9. Test results in pCi/L;
10. Printed name, signature, and certification number of the measurement specialist who reviewed the report;
11. Report date; and
12. The statement: "This notice is provided to you by a business certified by the New Jersey Department of Environmental Protection to perform radon

measurements. N.J.S.A. 26:2D-73 requires that no person shall disclose to any individual, except the Department of Environmental Protection or the Department of Health the address or owner of a nonpublic building that the person has tested or treated for the presence of radon, 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, 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."

The client reports include a reference to the Department's website at www.njradon.org for the most recent version of the testing and mitigation guidance document that is approved by the Department.

Client reports are attached.

L. Confidentiality Waiver

Affiliates will use the confidentiality waiver form to obtain written authorization from the owner to provide an address and corresponding radon test result to an individual other than the building owner, or the buyer in the case of a prospective sale.

Only a waiver that is approved by the Department as part of the business application or as an amendment will be used during testing. The waiver includes the following information:

1. A statement indicating that the owner or their legal representative agrees to release the information;
2. The name and signature of the owner or their legal representative as provided at N.J.A.C. 7:28-27.3(c);
3. The name and signature of the affiliate; and
4. The date that the owner or representative signs the document.

The confidentiality waiver is attached.