

Optional Template

Quality Assurance Plan for Conducting Radon Measurements in Kansas

Company Name:

Owner of the Company:

Radon Measurement Technician(s): (list all)

QAP Approval Date:

Signature of Quality Assurance Manager: _____

Note: *If several different methods are used to measure radon (i.e. a continuous radon monitor, electrets, passive test kits, etc.), then the quality control aspects of each method must be described in this plan.*

SECTION A: BUSINESS MANAGEMENT

A.1 Title and Approval Sheet

- State the Name of the Company
- Identify the Owner of the Company (If Different)
- Identify the Kansas Certified Radon Measurement Technicians(s)
- Review and approve the QAP on an annual basis

A.2 Table of Contents

- Identify Major Sections
- Identify Appendices

A.3 Distribution List

- State who will be provided copies of the document (all technicians, management and KDHE Radon Program at a minimum)
- Explain how the document will be maintained
- Explain how changes will be made and distributed to those with copies of the plan

A.4 Description of the Business

- Describe the primary purpose of the business.
- Describe how you will provide radon measurement services to the public (measurement methods used, etc).

A.5 Describe the Work to be Accomplished

- Describe/Identify your intended clientele - for whom do you plan to provide services? (i.e home buyers, schools, investors, etc.)

A.6 Quality Objective for Measurement Data

- Provide a one or two sentence statement regarding the quality of the radon measurement work that you plan to provide.

A.7 Personnel

- The length of this section more than any other is dependent on the organization of your business. For individuals who are the only employee and are also the sole-proprietor; the Radon Measurement Technician will be responsible for ALL aspects of the quality process. For businesses with numerous employees, each employee with responsibilities will need to be identified and described.
- Identify the owner of the business
- Describe how the radon portion of the business is organized
- Identify the employees who have radon responsibilities (tasks such as device storage, device placement & retrieval, record-keeping, client report preparation, device calibration, measurement reporting)
- Identify who is responsible for the quality of the data generated
- Document training provided to all personnel who are involved in any function affecting data quality (detector custody, sample analysis, quality assurance).
- Provide a copy of your certified radon measurement technician certificate(s) in the Appendices.

A.8 Documents and Records

- List the radon measurement documents to be generated by your business (client report forms, monthly data reports, etc.). Provide samples of all forms and documents in Appendices.
- Explain how and where these documents will be stored (If documents will be stored in a computer refer to section B.6)
- State how long your radon records will be stored/maintained (3 year minimum recommended)
- Describe when and how you will report radon measurements to your client and to KDHE

SECTION B: MEASUREMENT GENERATION

B.1 Instrument/Equipment Testing, Inspection and Maintenance

- Describe the equipment you will use to measure radon. List the serial number of each continuous radon monitor or continuous working level monitor.
- State that you will follow the operating guide from the manufacturer (Reference the owner manual or users guide)
- Provide a copy of the manufacturer's technical specification sheet in the Appendices.
- Provide a current copy of the annual device calibration report for each continuous monitor you own in the Appendices.

B.2 Sampling Methods

- Make reference to the required measurement protocols and state your intention to implement them in your radon measurement activities.
- Describe how you will strive to attain "Closed-House Conditions"

B.3 Analytical Methods

- Identify the laboratory you will use to analyze activated charcoal or alpha track test kits used by your business.

B.4 Instrument/Equipment Calibration and Frequency

- Describe process for calibrating instruments including frequency (at least once per year) and who will perform the calibration. Include the qualifications of the (calibration) service provider.
- Equipment calibration records should include the date of the calibration and/or the date the calibration expires, the facility where the calibration was performed, the procedures used (a procedure or sample calibration report can be attached), results of calibration, changes in calibration factors implemented.

B.5 Quality Control

- Provide details, practices, and procedures unique to each type of device in use
- Describe the quality control samples you will use (i.e. duplicates, blanks and spiked samples as applicable). For example, if you are using activated charcoal test kits, you must specify how often you will include a duplicate test kit, how many blanks and spiked test kits you will use in comparison to actual tests. (This must include the type of sample, the frequency it will be used, how the samples will be analyzed, what the acceptance criteria is and what corrective actions will be taken if the samples indicate concerns).
NOTE: If you are using a certified radon laboratory other than your business to provide the activated charcoal or alpha track test kits, you may reference the data provided by that laboratory on spiked samples.
- Provide details of development, maintenance and use of standard operating procedures. Provide copies of standard operating procedures in appendices. All relevant aspects of your radon activities should have written standardized procedures.
- Provide details on chain-of-custody procedures for measurement devices. A documented chain-of-custody system to track measurement devices should be in place including locations, dates, clients, methods/laboratories, and results.
- Provide details on how to assess the effects of background radiation. Background measurements should include the date and location of field background measurement, procedures used (appropriate documentation can be referenced), results, changes implemented because of the results.
- Provide a copy of control charts in the appendices that will be used to analyze duplicate and blank quality control samples.

B.6 Electronic Data Management

- If you will store documents electronically, describe your computer(s) system and the software and how you will ensure a computer crash does not delete all records (frequency/method of backup and format of records maintained such as Adobe Acrobat pdf, MS Word document, etc.)

SECTION C: ASSESSMENT AND OVERSIGHT

C.1 Assessments and Response Actions

- If applicable, explain how you will monitor subordinate employees (radon measurement technicians).
- Include a procedure for accepting, assessing, and responding to suggestions and complaints from customers, regulatory agencies, and others. This procedure should include documenting the suggestion or complaint, assessing it, determining how you will consider alternative resolutions for the problem and carrying out a response.
- Describe how corrective actions – whether they originate in a periodic review, an annual program audit, or from suggestions or complaints – will be determined and implemented.

SECTION D: DATA VALIDATION AND USABILITY

D.1 Data Correction, Review and Verification

- If you are using a continuous radon monitor, explain how you will correct the data using the calibration report.
- Identify the individual responsible for verifying that the radon measurement test was conducted properly.

APPENDICES

1. Copies of Kansas certified radon measurement technician certificates
2. Sample client report forms, monthly data reports and other radon documents generated by your business.
3. Copy of manufacturer's technical specification sheet for each monitor/equipment.
4. Procedures used for instrument calibration and/or calibration reports. Calibration certificates for each monitor/equipment.
5. Copies of all standard operating procedures
6. Copy of control charts for analyzing duplicate and blank quality control samples. Other documents