

Quality Assurance Plan

Checklist for Measurement Technicians/Laboratories

Instructions: Compare this checklist with your Quality Assurance Plan to make sure that you have addressed all these items in your plan, and in your radon measurement practices.

(Standards References: A= EPA Protocols for Radon and Radon Decay Product Measurements in Homes; B= Indoor Radon and Radon Decay Product Measurement Device Protocols; KAR = Kansas Regulations)

Quality Assurance Plan (K.A.R. 28-35-600d)

All Radon Measurement Technicians and laboratories are required to develop, operate by, and maintain a QAP. Participants with analytical capabilities must have a QAP that is appropriate for each device in use.

Critical components of a Kansas radon QAP:

- Quality Assurance Plan developed and in use (A 4.4, 4.4.6) (B 1.3) (KAR)
- Chain of Custody procedures for tracking measurement devices (KAR)
- Procedures and schedule for instrument calibration; calibration certificate showing calibration within 1 yr (KAR)
- Instructions on how to assess the effect of background radiation (KAR)
- Procedure for Duplicate, blank, and/or spiked radon tests (KAR)
- Plan must provide details, practices, and procedures unique to the devices in use. (KAR)
- SOPs developed or manufacturer SOPs adapted and in use for each measurement method for devices analyzed by technician (A 4.5) (KAR)
- SOPs for each brand/model/type of device in use analyzed by outside laboratory (A 4.5) (KAR)

Continuous Radon Monitor/Continuous WL Monitor Requirements

- Calibration performed annually (B 2.1.11.1)
- Instrument must display calibration information/label.
- Calibration label lists calibration facility, calibration date, date due
- Calibration certificate or log must be maintained for all devices
- Background measurement performed during calibration (B 2.1.11.2)
- Background measurement every 1000 hours (20 or so 48 hour measurements) for scintillation cell CRMs (B 2.1.11.2)
- Duplicates performed when two instruments available (B 2.1.11.3)
- Routine instrument checks performed (B 2.1.11.4)

Alpha Track Detector Requirements

- Calibrations performed annually (B 2.2.11.1)
- Spiked samples, 3/100 measurements, minimum 3 per year, maximum 6 per month (B 2.2.11.2)
- Duplicates, 10 percent of monthly measurements, maximum 50 per month (B 2.2.11.3)
- Field blanks, 5 percent of monthly measurements, maximum 25 per month (B 2.2.11.4)
- Daily instrument checks for analysis instruments (B 2.2.11.5)

Electret Detector Requirements

- Calibrations performed annually (B 2.3.11.1)
- Spiked samples, 3/100 measurements, minimum 3 per year, maximum 6 per month (B 2.3.11.2)
- Duplicates, 10 percent of monthly measurements, maximum 50 per month (B 2.3.11.3)
- Blanks, minimum of 5% or 10, whichever is smaller, per month (B 2.3.11.4)
- Weekly voltmeter zero check and reference electret check (B 2.3.11.5)

Activated Charcoal QC Requirements

- Spiked samples, 3/100 measurements, minimum 3 per year, maximum 6 per month (B 2.4.11.2)
- Duplicates, 10 percent of monthly measurements, maximum 50 per month (B 2.4.11.3)
- Blanks, 5 percent of monthly measurements, maximum 25 per month (B 2.4.11)