

NBCC Radon Testing Procedures

The following document provides recommended practices for Radon testing at NBCC locations.

DEFINITIONS

Definition

Bq/m³ – Becquerel per cubic metre is the unit of measure for Radon

C-NRPP – Canadian National Radon Proficiency Program

1.0 PURPOSE and SCOPE

The purpose of this standard is to outline practices for Radon testing at NBCC locations using Health Canada “Guide for Radon Measurements in Public Buildings”.

The current Canadian guideline for acceptable Radon levels in indoor air for dwellings is equal to or less than 200 Bq/m³.

2.0 Implementation

- 2.1 NBCC will follow Health Canada recommendations for Radon testing and mitigation.
- 2.2 Health Canada recommends that radon testing in schools begin with a long-term test, carried out for a minimum of 3 months during the school year. Ideally, this will be done during the heating season. This strategy is also appropriate for other public buildings that are only occupied during business hours.
- 2.3 To provide a representative estimate for the school-time radon levels, measurements should be made in the lowest-level occupied classrooms or offices of the building, preferably all at the same time. A radon measurement should be made in each room occupied in a basement or, if no basement exists, on the ground floor or the lowest-level floor having occupied rooms.
- 2.4 An “occupied” room is one in which an individual spends more than 4 hours per day.
- 2.5 The device location should not be in air currents caused by heating, ventilating and air conditioning vents, doors, fans and windows. Devices should not be placed near heat, sunlight, electrically powered appliances or equipment such as computers or televisions.
- 2.6 The preferred device location is near an interior wall at a height of 0.8 m to 2 m from the floor in the typical breathing zone, at least 50 cm from the ceiling and 20 cm from other objects to allow normal air flow around the detector. Depending on the detector used, this may be accomplished by suspending the detector from the ceiling. Detectors should be placed approximately 40 cm from an interior wall or approximately 50 cm from an exterior wall.
- 2.7 It is also recommended that the appropriate laboratory quality control be conducted by the laboratory furnishing the detectors. Calibration of instruments should be routinely conducted as recommended by the manufacturer and, if applicable, by C-NRPP. Laboratories analyzing for Radon may also hold laboratory accreditations such as ISO 9001 or ISO 17025.

- 2.8 At the present time the C-NRPP does not have mandated frequency for testing. NBCC has proactively committed to a testing program every 2 years within our facilities.

3.0 Interpretation of Results

- 3.1 If the long-term measurement results are below 200 Bq/m³, further measurements are not necessary. If the long-term measurement results are greater than 200 Bq/m³, then remedial action is recommended within the timeframe identified. NBCC will engage the Department of Transportation and Infrastructure (DTI) to assist with Radon remediation if elevated levels are present.

Radon Concentration	Recommended Remedial Action Time
Greater than 600 Bq/m ³	In less than 1 year
Between 200 Bq/m ³ and 600 Bq/m ³	In less than 2 years

4.0 References

- 4.1 "Guide for Radon Measurements in Public Buildings – January 2016"