

Canadian Radon Guideline

- *Remedial measures should be undertaken in a dwelling whenever the average annual radon concentration exceeds 200 Bq/m³ in the normal occupancy area.*
- *The higher the radon concentration, the sooner remedial measures should be undertaken.*
- *When remedial action is taken, the radon level should be reduced to a value as low as practicable.*
- *The construction of new dwellings should employ techniques that will minimize radon entry and will facilitate post-construction radon removal, should this subsequently prove necessary.*

Points of Clarification

1. In addition to residential homes, the term “dwelling” in this guideline also applies to public buildings with a high occupancy rate by members of the public such as schools, hospitals, long-term care residences, and correctional facilities. The following settings are excluded from this guideline:

- a. Uranium mines, which are regulated by the Canadian Nuclear Safety Commission,
- b. Other mines (e.g., fluor spar mines), which are regulated by provincial mining authorities,
- c. Other workplaces, since exposures to radon at such locations are governed by existing guidelines for Naturally Occurring Radioactive Materials (NORM). Details are given in the Canadian Guidelines for Management of Naturally Occurring Radioactive Materials (NORM) and a copy may be viewed or downloaded at: http://www.hc-sc.gc.ca/ewh-semt/pubs/contaminants/radiation/norm-mrn/index_e.html

2. The “normal occupancy area” refers to any part of the dwelling where a person is likely to spend several hours (greater than 4) per day. This would include a finished basement with a family room, guest room, office or work shop. It would also include a basement apartment. It would exclude an unfinished basement, a crawl space, or any area that is normally closed off and accessed infrequently, e.g., a storage area, cold room, furnace room, or laundry room.

3. The aim is to remediate and reduce the radon concentration to less than 200 Bq/m³. If the radon concentration is found to be: greater than 600 Bq/m³, the remedial actions are recommended to be completed in less than a year; between 200 Bq/m³ and 600 Bq/m³, the remedial actions should be completed in less than 2 years.

4. “As low as practicable” refers to what can be achieved with conventional radon reduction methods in a cost-effective manner. This is consistent with the ALARA (As Low As Reasonably Achievable) principle, whereby reasonable efforts are made to maintain radiation exposures as low as possible, with social and economic factors taken into consideration. In most situations, a final level less than 200 Bq/m³ will be readily achievable. In a small number of cases, it may turn out that the application of all reasonable remediation techniques will still leave a residual radon level greater than 200 Bq/m³. It is not the intention of this guideline to impose excessive or unreasonable remediation costs in order to achieve a marginal increase in benefit. Such situations should be evaluated on a case-by-case basis.

5. This guideline was formally approved by the Federal Provincial Territorial Radiation Protection Committee in 2006. The guideline is based upon current scientific understanding. It will be reviewed and updated as appropriate. Further information on radon may be obtained from the appropriate federal, provincial or territorial contact listed below or located at the following link: http://www.hc-sc.gc.ca/ewh-semt/radiation/fpt-radprotect/plan/index_e.html#prov