

PHAI Radon Monitoring

Radon is naturally occurring in the air we breathe. It is a colourless, odourless radioactive gas that is produced by the decay of radium and uranium, which are found in trace amounts in nearly all rocks, soils and groundwater as well as in building materials, plants, animals and the human body.

Since radon cannot be seen, smelled, or tasted, it can be present in high concentrations without being detected. Radon is less of a concern outdoors where it dissipates in the air, but in confined spaces like houses, it can build up to high levels and become a potential health risk over long-term exposure.

The Port Hope Area Initiative Management Office (PHAI MO) measures radon in buildings because elevated levels may indicate the presence of historic low-level radioactive waste (LLRW) in the ground around or under the building or, possibly, in building materials.

The PHAI Property Radiological Survey will test all Ward 1 and a few Ward 2 Port Hope properties – about 4,800 – for the presence of historic LLRW. A radon monitor (see other side) will be placed in the basement and/or the lowest living area of your home. The monitors will remain in place for six months, as recommended by Health Canada. According to Health Canada, about seven per cent of all houses in Canada have naturally occurring elevated radon levels. Therefore, elevated levels of radon do not necessarily mean that low-level radioactive waste is present at the property. Radon also occurs naturally, so elevations may have nothing to do with LLRW.

Based on studies, Health Canada has set guidelines for radon, measured in Becquerels per cubic metre (Bq/m³). If levels are detected between 200 Bq/m³ and 600 Bq/m³, Health Canada recommends taking steps to reduce the levels within two years. For radon above 600 Bq/m³, Health Canada advises mitigation within one year.

If radon monitoring reveals levels above 200 Bq/m³, the PHAI MO will follow up with soil sampling to determine the source – LLRW or naturally occurring. Results will be reported within the timelines recommended by Health Canada. If the radon levels are elevated in a normally occupied area of your home (where you could spend more than four hours per day) and LLRW is confirmed as the source of the radon, the PHAI will mitigate the radon until the LLRW is removed.

When elevated radon is confirmed as being naturally occurring, and not the result of historic low-level radioactive waste, the PHAI MO will provide guidance to the property owner about step that can be taken to reduce the levels.

Facts about your radon monitor

- The radon monitor is completely safe.
- It is a passive monitor with no moving parts. It is not electronic as there is no internal battery or wiring.
- The monitor measures the presence of radon gas – which is a naturally occurring form of radiation – but the monitor itself is not radioactive.
- The unit is made of plastic with air vents on the side that are lined with a filter to keep out dust. It contains a piece of plastic that is sensitive to radon gas. Please don't put objects too close to the unit (no closer than 4 in or 10 cm) so air can circulate freely around it.
- The unit is fairly sturdy and can withstand being accidentally dropped.
- Please leave the monitor where the contractor places it – and out of reach of children and pets, so it is not disturbed. It will be placed in a location away from drafts, windows, sumps, drains and not in kitchens or bathrooms.
- If the unit is accidentally damaged, please call the PHAI MO so we can replace it.
- Each unit has a serial number on the bottom, which the contractor will record.
- Your unit(s) will be picked up in six months.

