

# Specification for – Radon Services

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## Introduction

This specification sets out the strategy to minimise the risk from exposure to radon and its decay products to employees and persons using Trivallis properties.

This specification should be used in conjunction with any relevant legislation, Approved Codes of Practice, Health and Safety Executive (HSE) / Public Health England (PHE) guidance and other recognised procedures relating to the presence of radon in buildings.

Within the United Kingdom natural radioactive decay within rocks and soils can give rise to higher concentrations of radon gas. Areas where it is estimated by PHE that 1% or more of homes have a radon level above 200 Becquerel’s/m<sup>3</sup> (Bq/m<sup>3</sup>) are designated ‘radon affected areas’.

The workplace action level specified in the Ionising Radiations Regulations (IRR) is 300 Bq/m<sup>3</sup> as an annual average. Employers should make it unlikely that employees will receive a dose greater than 1millisievert (mSv) per year.

The recommended residential action level is 200Bq/m<sup>3</sup> annual average.

## Scope

Identifying and monitoring all Trivallis properties that may be affected by radon.

- Having clear procedures in place for the management of radon in affected buildings.
- Assisting Trivallis in developing and maintaining records of radon gas levels in Trivallis premises.
- Assisting Trivallis in maintaining a central database of all records.
- Providing suitable information and advice to employees and other persons likely to be

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- exposed to levels of radon gas in Trivallis premises.
- **To act as the recognised Radiation Protection Adviser (RPA) on behalf of Trivallis**
- Ensuring that any remedial measures put in place to reduce the level of radon in a property
- are monitored and maintained effectively.
- Reviewing reports and providing necessary actions to manage the risk

### Responsible Person Radon Safety

The RPA must hold a valid certificate of competence from an organisation recognised by the Health and Safety Executive as an Assessing Body for the certification of individual RPAs.

The role of the RPA is to provide advice to Trivallis about protection of its employees and the public from harmful effects of ionising radiation. The scope of advice given will include:

- Ensure so far as is reasonably practicable that a Radon Safety Management System is established and maintained.
- Advise Trivallis on the resources required to maintain Radon Safety Management.
- Assist Trivallis to ensure effective management systems are in place to ensure the operating procedures for the management of the risk from radon in Trivallis properties.
- To provide monitoring, remedial installation, maintenance and record keeping of the identified premises radon levels will be carried out in a manner that maintains a safe working environment for employees and others who occupy the identified premises.
- Management of the radon policy and procedures.
- Provide advice and guidance and information to Trivallis staff and tenants when required.
- Ensure that any training requirements are undertaken is suitable and appropriate.
- Implementation of radon monitoring surveys.
- Maintain an effective record system.
- Undertaking and reviewing risk assessments
- Implementation of measures, where necessary to restrict access to radon affected areas.

And to provide:

- Critical appraisals by means of formal audits to agreed standards and less formal visits of laboratories, rooms, sources, and stores.
- Reviews of radiation safety management systems and quality systems, particularly in connection with waste management policy and procedures.
- Support in the event of emergencies and incidents.

### Risk Assessment

Trivallis premises will be risk assessed to identify the potential for the presence of radon gas. The assessment will refer to the Public Health England's indicative atlas of radon in England and Wales which indicates the likely extent of the local radon hazard in all buildings within 1km grid squares.

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Where identified premises that reside within shaded areas will as part of the risk assessment be monitored for the potential for radon gas.

### Monitoring Programme

Radon monitoring will be carried out at suitable intervals commensurate with the risk based upon published geological information, radon data, and/or previous monitoring results.

Trivallis will supply a programme each year with all properties over the 1% risk category and under subject to budget will also include those properties under 1% risk.

All Trivallis premises where employees are permanently based, in radon affected areas will be monitored for the presence of radon.

Premises in areas not designated as ‘radon affected’ will be regularly reviewed and may be monitored based on an assessment of the risk.

In premises where the level of radon is found not to be above the relevant action level as specified in current legislation, re-monitoring will be carried out based on an assessment of the risk.

The Contractor will be used to place and return the detectors and Tenants will be given advice on how these are to be sited within the property.

### Placement

The preferred method of managing Radon test programs by a service provider is through a process and system with following characteristics;

- Each radon detector has a unique reference code (barcoded) which is to be used in a single property, during one testing cycle, only.
- The location and status of each radon detector is to be recorded through its barcoded unique reference including but not limited to;
  - Date of delivery to service provider by detector manufacturer
  - Date and position of placement in property
  - Date radon detectors are removed (either by collection by engineer or by return shipment by resident) from property
  - Date received back at service provider
  - Date handed to testing laboratory
  - Date test results were supplied to service provider by testing laboratory
- Route planning placement and collections of radon detectors from selected properties within the program is to be done using integrated route planning software, able to auto generate job instructions for field engineers and appointment communication to residents.
- Field engineers placing and / or collecting radon detectors are to perform their site visits using a digital application which records following real time
  - No access information including photographic proof
  - Capturing data of placement of radon detectors recording the unique reference and its position within the property with the ability to record photographic evidence

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- at point of collection of radon detectors, a positive identification, through barcode scanning, is required in order to ensure collection of the originally placed unit.
- At any point during the lifetime of any Radon testing program the service provider will have to be able to supply detailed program status reports per property.
- All data recorded is to be available for analysis
  - By program/project basis
  - By property
  - By detector pod number
  - Of mitigation requirement
  - Of future retesting requirements
- The entire process of program and route planning, on site placement and collection of detectors, recording of test results and collection and reporting of data is to be done within a single software application.
- All relevant information is to be made available through a portal for direct enquiry of real time information by customer.

### Returning

Once the monitors have been in place for the allotted time, they are to be collected in person and returned by the RPA/Contractor for documentation and then forwarded to an independent laboratory for analysis.

### Remedial Works

Premises where remedial measures have been installed to reduce the level of radon will be immediately monitored to assess that such measures are functioning correctly and effectively.

Premises where remedial measures are in place to reduce the level of radon will be monitored on a regular basis to ensure that remedial measures remain effective.

Where mechanical ventilation is installed to reduce radon levels Trivallis will keep a record of any checks carried out to ensure the ventilation is operating as intended.

### Exposure (Staff)

An employee should not receive an effective radiation dose greater than 1mSv per year from the workplace. Anyone required to work in a radon affected area will be required to record their time spent in that area on the personal exposure record form. (The risk is cumulative. short, infrequent visits are not of concern).

From the site-specific risk assessment and time spent in the affected area, the cumulative dose can be calculated.

If a cumulative dose of 0.5 mSv is reached (i.e. 50% of the annual allowable dose) then their line manager should be informed.

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### Frequency of Monitoring

The frequency of monitoring will be determined by risk assessment for each individual property. Generally, these guidelines will be followed: -

Where levels of radon are found to be significantly less than 300 Bq/m<sup>3</sup> (200 Bq/m<sup>3</sup> for residential premises) at the initial measurement, the monitoring of radon levels will be monitored at 10-year intervals.

Re-monitoring will be undertaken after any significant refurbishment or change of use. Where radon levels are found to be above the action level 300 Bq/m<sup>3</sup> (300 – 1000 Bq/m<sup>3</sup>) for commercial premises or 200 Bq/m<sup>3</sup> (200 – 500 Bq/m<sup>3</sup>) for residential premises following the initial measurement a Radiation Protection Advisor will be consulted where necessary and steps will be taken to immediately manage the occupational exposure of persons affected.

Where an engineering remedial solution is identified as the most appropriate reduction method, this will be undertaken as soon as practically possible. After the engineering solution has been installed, direct monitoring of the radon levels will be undertaken to assess the effectiveness of the measures to ensure the effectiveness of the remedial measures. Monitoring will be undertaken for 6 months following the remedial work installation, then annually for 3 years and thereafter at suitable intervals. Re monitoring will be undertaken after any significant refurbishment or change of use.

Where levels are above 1000 Bq/m<sup>3</sup> commercial properties (500 Bq/m<sup>3</sup> for residential premises) a Radiation Protection Advisor will be consulted where necessary and steps will be taken to immediately manage the occupational exposure of persons affected.

Closure or restrictions of entry to the affected area will be considered.

Where restrictions on entry are implemented, personal monitoring will be carried out.

Where an engineering remedial solution is identified as the most appropriate reduction method, this will be undertaken as soon as practically possible. After the engineering solution has been installed, direct monitoring of the radon levels will be undertaken to assess the effectiveness of the measures.

Re monitoring will be undertaken after any significant refurbishment or change of use.

### Maintenance of Records

The data will be held on Trivallis Dynamics System

The radon gas data base will contain: -

- Details of the property including the unique property reference number
- The historic details of the property's radon level measurements.
- Monitoring frequency last and due dates
- Risk posed by the property's location and occupation

In line with the Ionising Radiation Regulations radon levels in excess of the relevant action levels will be notified to the Health and Safety Executive.