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## **Radon in the Workplace**

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### **1.0 Statement of purpose/objectives**

This arrangement will assist in meeting Shropshire Council's core value to achieve more by working and learning together and also meet the legislative requirements. The main requirements are to create a safe working environment by ensuring effective control measures are provided for workplaces where elevated levels of radon gas may exist.

### **2.0 Scope**

The scope of this arrangement is to promote an active safety culture and applies to all Shropshire Council employees and volunteers at work.

### **3.0 Definition**

For the purpose of this arrangement radon is a naturally occurring radioactive gas that can seep out of the ground and may build up in indoor cellars & basement workplaces.

### **4.0 Duty of Care**

Shropshire Council has a general duty of care to protect the health, safety and welfare of its employees so far as is reasonably practicable by ensuring safe workplaces.

### **5.0 Assessment of Risk at the Workplace**

Managers and employees must work together to identify potential hazards and the subsequent risk from the working environment. A suitable and sufficient radon risk assessment must be carried out prior to a cellar or basement area being used as a permanent workplace.

### **6.0 Information, instruction and training**

Appropriate information and training is an essential component in enabling employees to carry out working activities. Managers must ensure training needs for workers are identified. For example, during induction, appraisal or risk assessment. Training must be available to employees who are required to work full time in cellars, basements or poorly ventilated ground floor rooms.

#### **7.0 Implementation**

Management guidance in the form of Frequently Asked Questions will be provided and updated to support the implementation of the arrangement.

#### **8.0 Compliance**

This arrangement will enable Shropshire Council to conform to statutory requirements and best current practice. Further references are provided in appendix 2.

#### **9.0 Review of arrangement**

This arrangement will be reviewed by the Corporate Health & Safety Team in two years.

#### **Approving Body**

Consultation & Approval

Health, Safety and Welfare Group

# Radon in the workplace

## Frequently Asked Questions

### Contents:

1. Roles and responsibilities - who does what?
2. What is radon?
3. What are the health hazards associated with radon?
4. Which workplaces may be affected?
5. What are the radon levels in Shropshire?
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### Appendix 1

Radon in the workplace hazard checklist.

### Appendix 2

Further information and references.

## 1 Roles and responsibilities - who does what?

- 1.1 Shropshire Council as a local authority employer, through its elected members, has ultimate responsibility for compliance with Health and Safety legislation.
- 1.2 The Head of Paid Services and Corporate Management Team are responsible for ensuring:
  - The implementation of the Radon in the Workplace arrangement across all Directorates to ensure consistency of approach.
  - The allocation of suitable and sufficient resources.
- 1.3 Directors and Group Managers:
  - The implementation of the Radon in the Workplace arrangement and that all employees are familiar with the contents of the arrangement insofar as it is relevant to their workplace.
  - Directorate Radon in the Workplace health and safety standards and performance are monitored.
  - Suitable levels of competency for managers, supervisors and employees, enabling them to undertake work activities safely.
  - The allocation of sufficient Directorate resources to effectively manage Radon in the Workplace arrangements.
- 1.4 Service Managers/Line Managers are responsible for:
  - Identifying working environments where elevated levels of radon gas may exist.
  - Ensuring risk assessments are undertaken for relevant workplaces and that control measures are communicated to the appropriate people.
  - Ensuring that all employees receive appropriate information, instruction and training relating to Radon in the Workplace arrangements.
  - Reporting any Radon in the Workplace issues to the Directorate Health and

Safety Coordinator.

- Ensuring, in conjunction with line managers, that risk assessments are reviewed annually or more frequently where there has been any significant change or incidents, and if new legislation requires change to best working practice.

**1.5** The Corporate Health and Safety Team is responsible for:

- Providing advice and guidance to enable managers to carry out their duties and responsibilities effectively.
- Ensuring, in conjunction with managers, that Radon in the Workplace arrangements are monitored on a regular basis via self-auditing and auditing processes.

**1.6** Directorate Health and Safety Co-ordinators are responsible for:

- Assisting in the monitoring process, to ensure risk assessments are undertaken for Radon in the Workplace arrangements in the directorate and the results are communicated to the appropriate persons.

**1.7** All Shropshire Council employees including volunteers are responsible for:

- Complying with the requirements of the Radon in the Workplace arrangement.
- Assisting with the risk assessment process, as required.
- Co-operating with the safe systems of work as identified to enable Shropshire Council to comply with its health & safety responsibilities.
- Ensuring that Radon in the Workplace arrangements do not put themselves or others at risk.
- Reporting immediately to their line manager, any adverse incidents that have arisen as a result of radon in the workplace.

**1.8** Property Client Team will arrange for radon surveys when required.

## **2 What is radon?**

Radon (more properly known as radon-222) is a naturally occurring radioactive gas that can seep out of the ground and build up in indoor workplaces. Radon comes from Uranium which occurs naturally in many rocks and soils. You cannot see, smell, hear or feel it. Most radon will disperse harmlessly into the outdoor air but some will pass from the ground & collect in spaces under or within buildings. Radon concentration levels are measured in units called becquerels per cubic metre (Bq/m<sup>3</sup>). For workplaces action must be taken to manage occupational exposure if the radon level exceeds 400 Bq/m<sup>3</sup>.

## **3 What are the health hazards associated with radon?**

Radon is recognised to be the second largest cause of lung cancer in the UK after smoking, resulting in up to 2000 fatal cancers per year. Lung cancer is the biggest cause of cancer related deaths in the UK with only 5% of lung cancers being curable.

## **4 Which workplaces may be affected?**

The highest levels are usually found in underground spaces such as cellars, basements, caves and mines. Well ventilated ground floor and higher storeys are unlikely to have significant radon levels.

**4.1** Boiler and plant rooms located at basement level are not generally considered to be 'at risk' workplaces as they are not usually occupied by employees on a permanent basis.

## **5 What are the radon levels in Shropshire?**

The Health Protection Agency publish data and graphs indicating radon levels in the UK. The average level in Shropshire is 50 Bq/m<sup>3</sup>, with higher levels being found in the Shrewsbury town area.

## **6 What are the legal requirements for workplaces?**

**6.1** Under the Health and Safety at Work etc Act 1974, employers must, so far as is reasonably practicable, ensure the health and safety of employees and others who have access to their work environment.

**6.2** The Management of Health and Safety at Work Regulations 1999 require the assessment of health and safety risks and this should include radon if a workplace is located underground or in a radon Affected Area. The risk assessment should include radon measurements for underground workplaces.

**6.3** The Ionising Radiations Regulations 1999 (IRR99) come into effect where radon is present above the defined action level of 400 Bq/m<sup>3</sup> when employers are required to take action to restrict resulting exposures.

**6.4** The Building Regulations 2000 (England and Wales) supported by BRE report BR211 Require that buildings and extensions (workplaces and dwellings) constructed after 2000 in radon Affected Areas have protective measures installed during construction.

## **7 What is a radon survey?**

Radon surveys should be conducted in any workplace where its location suggests that elevated radon levels may be found and the area is to be occupied on a full time basis by employees. Inexpensive surveys can be carried out by leaving small plastic passive detectors in workplaces of interest. Measurements are made over a period of 3 months after which the detectors are posted back to the supplier who then provides the report with results. Property Client Team shall arrange for radon surveys when required.

## **8 What do the radon survey results mean?**

Where workplace measurements show radon levels below 400 Bq/m<sup>3</sup> then the only further action required is to decide when the risk assessment will be reviewed. The period of remeasurement might be in the order of once every 10 years. For occupied workplaces with radon levels above 400 Bq/m<sup>3</sup> managers may need to take steps to manage occupational exposure or ensure the radon levels are reduced by engineered means. Control measures shall be implemented when radon levels of greater than 400 Bq/m<sup>3</sup> are recorded.

## **9 What are radon in the workplace risk assessments?**

Managers must take responsibility at all times for their employees and ensure adequate safe systems of work are provided. Risk assessments will help identify radon issues to be addressed and confirm that the workplace can be occupied. The risk assessment would include:

- Location of the workplace
- Means of ventilating the workplace
- Length of time employees occupy the workplace
- Control measures to protect the employees from radon exposure
- Employee training needs.

A hazard checklist is provided at Appendix 1.

## **10 Who should carry out radon in the workplace risk assessments?**

The risk assessment should be carried out by line managers with the full co-operation of the workers. The risk assessment should be reviewed annually or more frequently where there has been any significant change or incident.

The outcome of the risk assessment will show if the workplace is suitable for permanent occupation by employees. Property Client Team shall arrange for radon surveys when required.

**11 Where can I get further training?**

Training is available from the Organisation Development Unit (ODU). Directorates may also provide specific workplace related training.

**12 Where can I get further advice?**

In the first instance please contact your directorate health and safety coordinator for guidance.

Further advice can be provided by the Property Client Team and the Health and Safety Team.

**13 Where can I get further information?**

The Health Protection Agency

The Health & Safety Executive

HSE Books

Further references are given in appendix 2 below.

## Appendix 1

### Radon in the workplace hazard checklist

The generic checklist below may be used to help managers define the hazards and to undertake a Radon in the Workplace risk assessment.

Name of workplace \_\_\_\_\_

Managers name. \_\_\_\_\_

Date checklist completed \_\_\_\_\_

The Workplace	Yes/No	N/A
Is the workplace in a cellar or basement below ground level?		
Is the workplace poorly ventilated?		
Is the workplace occupied by employees on a full time basis?		
Is the workplace located in the Shrewsbury town area?		
<i>(The workplace is not suited to permanent occupancy or office use if the previous 4 responses were Yes)</i>		
Is a radon survey required?		
Are radon extract fans installed?		
Can the workplace be naturally ventilated by the employees?		
The Employees	Yes/No	N/A
Are employees aware of radon in the workplace procedures?		
Supervision	Yes/No	N/A
Do you carry out regular supervisor checks on the workplace?		
Do you carry out regular checks on radon control measures?		
Information and Training	Yes/No	N/A
Do employees have information and training on radon in the workplace?		
Are employees aware of the Radon in the Workplace arrangements?		
Reporting systems	Yes/No	N/A
Are reporting procedures and systems in place?		
Other Hazards – Please list as necessary	Yes/No	N/A

Control measures:-

Do not use the cellar, basement area as office space.  
 Restrict access to the cellar, basement to short periods of work only.  
 Provide mechanical ventilation.  
 Monitor radon levels.

## **Appendix 2**

### **Further information and references**

- The Health and Safety at Work etc Act 1974
- The Management of Health and Safety at Work Regulations 1999
- The Ionising Radiations Regulations 1999 (IRR99)
- The Building Regulations 2000 (England and Wales)
- The Health Protection Agency (HPA)
- HPA-RPD, Indicative Atlas of Radon in England and Wales