



**GIG**  
CYMRU  
**NHS**  
WALES

Bwrdd Iechyd Prifysgol  
Abertawe Bro Morgannwg  
University Health Board



|   |  |                    |                  |
|---|--|--------------------|------------------|
| <b>Meeting Date</b>   | <b>3<sup>rd</sup> December 2018</b>  | <b>Agenda Item</b> | <b>3c</b>        |
| <b>Report Title</b>   | Radon Gas Monitoring   |                    |                  |
| <b>Report Author</b>  | Dr Laurie Higgs, Head of Health and Safety   |                    |                  |
| <b>Report Sponsor</b>   | Siân Harrop-Griffiths, Director of Strategy  |                    |                  |
| <b>Presented by</b>   | Siân Harrop-Griffiths, Director of Strategy  |                    |                  |
| <b>Freedom of Information</b>                                 | Open   |                    |                  |
| <b>Purpose of the Report</b>                                  | This paper informs the Health Board of the current position in respect of the management of Radon gas and associated compliance with the Ionising Radiation Regulations 2017 (IRR17) |                    |                  |
| <b>Key Issues</b>   | Current arrangements for the testing of levels of Radon are made on an ad hoc basis with no permanent funding for an effective programme   |                    |                  |
| <b>Specific Action Required</b><br><i>(please ✓ one only)</i> | <b>Information</b>   | <b>Discussion</b>  | <b>Assurance</b> |
|   |  |                    | ✓                |
| <b>Recommendations</b>  | Members are asked to : <ul style="list-style-type: none"> <li>• <b>NOTE</b> the report</li> </ul>  |                    |                  |

## **RADON GAS MONITORING**

### **1. BACKGROUND**

Radon gas is naturally occurring gas that may be found in buildings used as a workplace. Inhalation of the gas may cause lung cancer.

The Ionising Radiation Regulations 2017 (IRR17) places a duty on the Health Board to identify and to assess the risks to employees and others who may be exposed to Radon gas. There will also be a requirement for formal notification to the Health and Safety Executive where any work is carried on in an atmosphere containing Radon 222 gas at an annual average activity concentration in air exceeding 300 Bq m<sup>3</sup>. Appropriate control measures and ongoing monitoring will also be required.

### **2. INTRODUCTION**

This paper informs the ABMU Health and Safety Committee of current arrangements for the monitoring and management of Radon gas in ABMU and proposes funding of a survey programme to comply with the requirements of the Ionising Radiation Regulations 2017 (IRR17).

### **3. RISK ASSESSMENT OF RADON AFFECTED AREAS**

#### **General**

The UK has been extensively surveyed by the Health Protection Agency (HPA) and British Geological Survey. The highest radon areas have been defined by Government as Radon Affected Areas.

#### **When Risk Assessments are Required**

Risk assessment will be required to identify potential levels of exposure to Radon in:-

- Ground floor areas of buildings located in Radon affected areas
- Occupied areas below ground (for example occupied greater than an average of an hour per week/ 52 hours per year), or those containing an open water source irrespective if they are in Radon affected areas

#### **Technology**

The risk assessment process is relatively simple requiring the purchase of sample discs, locating them for the test period, laboratory reporting and subsequent evaluation of the test results.

#### **Acting on the Risk Assessment**

Results of the risk assessment may require that control measures are introduced. These include

- Improving ventilation including engineering controls to ensure effective number of air changes to dilute the gas.
- Restricting exposure e.g. staff working for strictly controlled time periods so that their possible exposure falls below action levels

There may be potential additional costs where the risk assessment identifies remedial action such as improved ventilation and to maintain any engineering or other controls introduced

### **Review of Radon Risk Assessments**

IRR17 follows the principles of the Health and Safety Management Regulations 1999 where risk assessments should be reviewed where there is a significant change in possible exposure or the Health Board believes that the risk assessment is no longer suitable and sufficient.

## **4. CURRENT ARRANGEMENTS FOR RISK ASSESSMENT**

### **General**

The current policy for Ionising Radiation Safety was reviewed in 2018. It places a duty on the Director of Strategy to put in place arrangements to monitor Radon gas and to consider the effects of any changes in use of a building might affect Radon exposure.

Radon monitoring is performed by the Technical Services function within Estates

### **Monitoring Programme**

A number of samples and risk assessments have been made. These include hospitals including Cefn Coed, Tonna, Cimla, Princess of Wales Glanrhyd and Maesteg and a small number of clinics and smaller buildings.

The sampling programme has generally given priority to below ground locations in the higher risk areas (as defined in the Radon Affected Area map). Except for one sample in a boiler room in Cefn Coed Hospital (that was then rechecked and levels found to be compliant) samples taken show that action levels for IRR99 had not been exceeded and no additional control measures were needed to control exposure.

## **4. WEAKNESSES IN CURRENT ARRANGEMENTS**

- Though a range of samples have been taken the numbers are insufficient. For instance Maesteg Hospital has had 2 samples taken but consultants have recommended that 6 samples are taken on the site.
- There is no dedicated funding for Radon monitoring with funding obtained from the waste management budget on an ad-hoc basis
- There is no ongoing funding needed to maintain a Radon testing regime, to manage any new work requiring risk assessment review or issues arising from results of the risk assessment
- The Board may be in breach of IRR17 where it fails to inform HSE of work areas where exposure to Radon gas exceeds 300 Bq m<sup>3</sup>
- Reporting of potential exposure of staff to ionising radiation may not be effective with some reports going to the Quality and Safety Committee (for X-rays etc.) and Radon gas going to the new ABMU Health and Safety Committee.

## 5. DEVELOPING A ROBUST RISK ASSESSMENT PROCESS

In 2017 consultants provided, based upon the Radon map, a business case for 54 site assessments across the Health Board (Table1).

| No. of Sites | Radon Potential | Recommendation                                      |
|--------------|-----------------|---|
| 1            | >10%            | Monitoring Essential                                |
| 22           | 1 – 10%         | Monitoring Recommended                              |
| 31           | <1%             | Monitoring recommended if basement rooms are in use |

**Appendix A** shows the sites and numbers of samples per area.

One AMBU property (Murton Clinic) falls was identified in the Radon gas map at 30-35% for Radon being present and monitoring is essential. This location has been sampled and Radon levels were found to be acceptable.

For each site, depending upon size and the presence of below ground accommodation or work areas there would be a different number of assessments required. A business case has been developed by Estates for this work to be undertaken over a 3 year period with 100 samples being taken each year. Focus in year 1 and 2 would be on locations where Radon sampling is recommended or areas that are below ground. Total cost for the initial 3 year programme is £28,000.

The sampling regime will be undertaken by a competent laboratory service with ABMU required to agree the sampling regime, to provide access to areas and to manage the results.

Following a series of Radon assessments there will be a requirement to appropriately act on the results. Where an unacceptable level of Radon is detected a small group will be formed comprising the relevant ward or departmental manager, Estates, Radiation Protection Adviser and Health and Safety Manager. This will ensure that there is adequate technical knowledge to determine the risk level and any necessary remedial action.

## 6. RECOMMENDATIONS

The ABMU Health and Safety Committee is requested to note the current position.

| <b>Governance and Assurance</b>   |  |   |  |                |  |                 |  |  |   |  |
|---|--|---|--|----------------|--|-----------------|--|--|---|--|
| <b>Link to corporate objectives</b>   | Promoting and enabling healthier communities |   | Delivering excellent patient outcomes, experience and access |                | Demonstrating value and sustainability |                 | Securing a fully engaged skilled workforce |  | Embedding effective governance and partnerships |  |
|   | ✓  |   | ✓  |                | ✓                                      |                 | ✓  |  | ✓   |  |
| <b>Link to Health and Care Standards</b>  | Staying Healthy                              | Safe Care   | Effective Care   | Dignified Care | Timely Care                            | Individual Care | Staff and Resources                        |  |   |  |
|   | ✓  | ✓   | ✓  |                |  |                 | ✓  |  |   |  |
| <b>Quality, Safety and Patient Experience</b>   |  |   |  |                |  |                 |  |  |   |  |
| Legal duty to control potential exposure to Radon gas.  |  |   |  |                |  |                 |  |  |   |  |
| <b>Financial Implications</b>   |  |   |  |                |  |                 |  |  |   |  |
| £28,000 for a three-year programme of sampling.<br>Possible investment required to control any risks identified |  |   |  |                |  |                 |  |  |   |  |
| <b>Legal Implications (including equality and diversity assessment)</b>   |  |   |  |                |  |                 |  |  |   |  |
| Current compliance gap  |  |   |  |                |  |                 |  |  |   |  |
| <b>Staffing Implications</b>  |  |   |  |                |  |                 |  |  |   |  |
| No immediate concerns   |  |   |  |                |  |                 |  |  |   |  |
| <b>Long Term Implications (including the impact of the Well-being of Future Generations (Wales) Act 2015)</b>   |  |   |  |                |  |                 |  |  |   |  |
| None  |  |   |  |                |  |                 |  |  |   |  |
| <b>Report History</b>   |  | The Operational Health and Safety Group has approved this report. |  |                |  |                 |  |  |   |  |
| <b>Appendices</b>   |  | Supporting information to the report should be listed here.       |  |                |  |                 |  |  |   |  |