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# RADIATION SAFETY PROCEDURE FOR STAFF

## Introduction and Aim

This procedure supports the Radiation Safety Policy. Its purpose is to ensure that radiation doses to staff and others resulting from work carried out by Public Health Wales are as low as reasonably practicable.

## Linked Policies, Procedures and Written Control Documents

Radiation Safety Policy  
Radiation Safety Procedure for Patients  
Service-level radiation safety procedures

[All Corporate policies and procedures are available on the Public Health Wales Website](#)

## Scope

This procedure applies to all Public Health Wales staff. It is of particular relevance to people who work with ionising radiation or manage or advise services using ionising radiation.

### Equality and Health Impact Assessment

An Equality and Health Impact Assessment has been completed.

### Approved by

Business Executive Team

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**Disclaimer**

**If the review date of this document has passed please ensure that the version you are using is the most up to date either by contacting the document author or the [Corporate Governance](#).**

<b>Summary of reviews/amendments</b>				
<b>Version number</b>	<b>Date of Review</b>	<b>Date of Approval</b>	<b>Date published</b>	<b>Summary of Amendments</b>
1	2014	31 January 2013		Original version – part of single Radiation Safety Policy
2	2015, 2016, 2017, 2018	20 August 2014		Minor amendments to Appendix 1 following review by Trust Radiation Protection Group, plus revisions requested by Partnership Forum policy group
3	2018	24 October 2018	01 November 2018	Procedure separated from policy and updated to take account of new regulations and new policy/procedure templates.
4.	2021	May 2022	TBC	Reviewed and updated in November 2021 and approved by Breast Screening Programme Board in May 2022. Only minor amendments to update staff changes made.

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## **1 Introduction**

This procedure supports the Radiation Safety Policy. Its purpose is to ensure that radiation doses to staff and others resulting from work carried out by Public Health Wales are as low as reasonably practicable.

## **2 Definitions**

*Ionising radiation* – a type of high energy radiation that can lead to damage in human tissue and increase the risk of cancer.

*IRR* – an abbreviation for the Ionising Radiations Regulations 2017

*Radon* – a gas that occurs naturally and emits ionising radiation.

*Radiation dose* – a measure of the amount of ionising radiation. In general, a higher radiation dose means a higher risk.

*Radiation protection* – the protection of people and the environment from the harmful effects of ionising radiation.

*X-ray* - a type of ionising radiation used for medical imaging.

## **3 Scope**

This procedure applies to all Public Health Wales staff. It is of particular relevance to people who work with ionising radiation or manage or advise services using ionising radiation. Responsibilities regarding staff of other employers (contractors, agency workers, staff on secondment etc.) are addressed in section 6.5.

This procedure controls the risks to staff and others arising from:

- Medical x-ray equipment
- Radon

It will need to be revised before Public Health Wales starts any work involving other sources of radiation (e.g. radioactive materials).

A separate procedure controls the risks to patients from medical x-ray equipment – see Radiation Safety Procedure for Patients.

## **4 Regulations and guidance**

The use of ionising radiation is governed by The Ionising Radiations Regulations 2017. These regulations, and any amendments, are referred to in this procedure as IRR. The regulations are supported by an approved code of practice and other official and professional guidance.

The Health and Safety Executive enforces IRR.

There are additional regulations applicable only to radioactive sources. They are not relevant to current work within Public Health Wales.

## **5 Roles and responsibilities**

### **5.1 Chief Executive**

Public Health Wales is the employer under IRR. The Chief Executive:

- Takes overall responsibility for compliance with IRR on behalf of Public Health Wales
- Appoints a suitable Radiation Protection Adviser

### **5.2 National Director, Health Protection and Screening Services and Executive Medical Director**

The National Director, Health Protection and Screening Services and Executive Medical Director :

- Is the Trust Board's nominated Director responsible for ensuring compliance with this procedure
- Ensures that Public Health Wales follows the appropriate notification/registration/consent process with the Health and Safety Executive, as recommended by the Radiation Protection Adviser

### **5.3 Radiation Protection Group**

The Radiation Protection Group is responsible for overseeing the management of radiation safety throughout Public Health Wales. The Director of Screening Division chairs the Group. It reports to the Health and Safety Group on matters of staff and public safety. This provides assurance to the Board and Chief Executive about the radiation safety arrangements within Public Health Wales. Appendix 1 of the Radiation Safety Policy gives the terms of reference and membership of the Radiation Protection Group.

### **5.4 Divisional Directors**

Divisional Directors whose services use ionising radiation are responsible for:

- Ensuring that radiation safety arrangements throughout their division follow best practice and comply with IRR
- Ensuring that sufficient funds are made available to service/department managers to implement all radiation protection requirements in this procedure or as advised by the Radiation Protection Adviser

### **5.5 Head of Estates and Health and Safety**

The Head of Estates and Health and Safety is responsible for:

- Assessing the risk from radon gas in premises occupied by staff (see 6.7)
- Ensuring that action is taken to reduce the risk to an acceptable level

### **5.6 Service/department managers**

Managers of services/departments that use ionising radiation are responsible for:

- Implementing all radiation protection arrangements in this procedure or as advised by the Radiation Protection Adviser
- Ensuring that radiation risk assessments are carried out and reviewed
- Appointing Radiation Protection Supervisors in consultation with the Radiation Protection Adviser. The manager must

formally appoint each Radiation Protection Supervisor in writing, issue the role specification (appendix 2), and provide adequate training and resources

- Putting in place local rules for radiation safety in consultation with the Radiation Protection Adviser and assisted by the Radiation Protection Supervisors
- Ensuring that relevant staff are informed of the local rules and are trained how to follow them
- Ensuring that periodic reviews of an individual's compliance with the provisions of the local rules are undertaken and recorded
- Ensuring that periodic reviews of the local rules are undertaken and recorded
- Making arrangements to monitor the radiation doses received by staff who work with radiation, for example by issuing personal dosimeters
- Involving the Radiation Protection Adviser as appropriate (see 5.7)
- Submitting an annual report to the Radiation Safety Group to demonstrate the level of compliance with this procedure

## **5.7 Radiation Protection Adviser**

The Chief Executive will appoint one or more suitable individuals as Radiation Protection Advisers. The Radiation Protection Adviser advises on the measures to be taken to comply with IRR, together with other relevant legislation on the use of ionising radiation. The scope of the advice will include:

- The implementation of requirements for controlled and supervised areas
- The prior examination of plans for installations and the acceptance into service of new or modified sources of ionising radiation in relation to any engineering controls, design features, safety features and warning devices provided to restrict exposure to ionising radiation
- The regular calibration of equipment provided for monitoring levels of ionising radiation and the regular checking that such equipment is serviceable and correctly used
- The periodic examination and testing of engineering controls, design features, safety features and warning devices and regular checking of systems of work provided to restrict exposure to ionising radiation

- Risk assessment
- The designation of controlled and supervised areas
- The conduct of the various investigations required by IRR
- The drawing up of contingency plans
- Dose assessment and recording

The Radiation Protection Adviser is a member of the Radiation Protection Group and normally reports to the Chief Executive through this route. If the Radiation Protection Adviser believes that immediate action is required to remedy instances of non compliance or potential non compliance he/she reports directly to the Divisional Director and if necessary to the Chief Executive.

## **5.8 Radiation Protection Supervisors**

Service/department managers will appoint one or more members of staff to act as Radiation Protection Supervisors. Each Radiation Protection Supervisor plays a supervisory role in assisting Public Health Wales to comply with IRR.

Appendix 1 gives the role specification for a Radiation Protection Supervisor.

## **5.9 All staff**

All staff working with ionising radiation must:

- Exercise reasonable care and follow the local rules and related working instructions
- Use, as instructed, any protective equipment and personal dosimeters provided, and report any defects in such equipment and dosimeters to the department manager and Radiation Protection Supervisor
- Undertake any training deemed necessary
- Follow Public Health Wales' incident reporting procedure if an incident occurs in which a member of staff or other person is unintentionally exposed to radiation



## **6 Arrangements for radiation safety**

The following arrangements apply to departments where work with radiation is undertaken.

### **6.1 Radiation risk assessments**

Managers must ensure that a radiation risk assessment is carried out for each activity where work with ionising radiation is involved. Radiation risk assessments must be reviewed regularly and whenever there are changes to equipment or working practices.

### **6.2 Controlled and supervised areas**

Certain rooms may need to be designated as controlled or supervised areas according to the level of radiation risk. Warning signs will indicate the presence of such areas and the Radiation Protection Supervisor will ensure that staff work safely in accordance with local rules (see 6.3).

### **6.3 Local rules**

Each department with controlled or supervised areas must have local rules to protect staff and others. Local rules specify general radiation protection arrangements and particular requirements identified in IRR.

The Radiation Protection Supervisor must ensure that all staff are adequately supervised. The Radiation Protection Supervisor must report any non-compliance with the local rules to the department manager who, in consultation with the Radiation Protection Adviser, will investigate the reasons for the non-compliance and put in place measures to ensure that such breaches are not repeated. In instances where breaches are identified by the Radiation Protection Adviser as serious or in instances where breaches cannot be resolved within the department the manager will seek a solution by referring the issue to the Divisional Director and the chair of the Radiation Protection Group.

## **6.4 New or modified equipment installations**

The radiation safety features of all new equipment installations must be subject to a critical examination. The critical examination is the responsibility of the installer. The department manager must obtain confirmation that the outcome is satisfactory before putting the equipment into use. The manager must consider the implications for radiation safety before making any modifications to equipment or premises, and should consult the Radiation Protection Adviser if necessary.

## **6.5 Staff of other employers**

Staff of other employers such as agency staff, staff on secondment or staff of contractors may need to undertake work in Public Health Wales involving ionising radiation or located in a radiation area. Managers must act in collaboration with such employers to define responsibilities and exchange information to ensure the safety of all staff.

## **6.6 Incidents**

Staff must report all incidents involving accidental exposures of staff or others using the Public Health Wales incident reporting procedure. The department manager must carry out an appropriate level of investigation and take any remedial and/or preventative action, in consultation with the Radiation Protection Supervisor. Where appropriate, the manager should ask the Radiation Protection Adviser to assess the risks associated with the incident and advise about the need for reporting the incident to the Health and Safety Executive.

## **6.7 Radon**

Radon is a gas that emits radiation. It occurs naturally in some parts of the country. Staff may receive a radiation dose by breathing in radon in their workplace. Public Health Wales has a duty to protect staff from this risk. The Head of Estates and Health and Safety makes arrangements to:

- Review the potential radon hazard in all workplaces used by Public Health Wales staff

- Monitor the level of radon in workplaces identified as being in radon affected areas
- Undertake remedial work to reduce levels in any workplaces that are above the relevant action level
- Re-monitor such workplaces every 2-3 years
- Re-monitor other workplaces on a less frequent basis

The Head of Estates and Health and Safety should consult the Radiation Protection Adviser about the suitability of the arrangements.

## **7 Training requirements**

Before allowing any individual to work with ionising radiation, a manager must assess the individual's training requirements, provide any required training, monitor the training programme and assess the individual's performance. Radiation Protection Supervisors need more detailed training as specified by the Health and Safety Executive. The Radiation Protection Adviser can recommend suitable training if required.

## **8 Monitoring compliance**

The Radiation Protection Group monitors compliance with this procedure by reviewing:

- Annual reports from Radiation Protection Supervisors and managers
- Reported radiation incidents
- Radiation Protection Adviser inspection visits and audits including review of personal dosimetry results
- Reports of inspections by relevant external bodies

## **Appendix 1 - Radiation Protection Supervisor role specification**

Base Location: [INSERT LOCATION HERE]

Department: [INSERT DEPARTMENT HERE]

Accountable to: [INSERT SERVICE MANAGER HERE]

Reports to: [INSERT LINE MANAGER HERE]

Liaises with: Radiation Protection Adviser

**Job Summary** The Radiation Protection Supervisor (RPS) plays a supervisory role in assisting Public Health Wales to comply with the requirements of the Ionising Radiation Regulations 2017. The RPS is directly involved in the work with ionising radiation and exercises close supervision to ensure that the work is done in accordance with local rules.

The only responsibility of the RPS specified under the regulations is to supervise the work with ionising radiations. Overall responsibility for radiation safety lies with the departmental manager.

### **Main duties and responsibilities**

#### **1 Restriction of exposure**

Observe, from time to time, all procedures involving ionising radiation and to keep a record of this process for audit purposes. Issue instructions necessary to maintain radiation doses as low as reasonably practicable.

#### **2 Notification of changes and incidents**

Notify the manager, in writing:

- Of any change in work activity, equipment, usage or conditions that might affect radiation safety
- Immediately of any incident or suspected incident involving unintended radiation exposure of staff or others

### **3 Local rules and systems of work**

Assist in the writing of local rules and systems of work and ensure that all staff comply with them.

### **4 Information, instruction and training**

Attend courses and receive training as recommended by the Radiation Protection Adviser. Ensure that necessary safety information and guidance is given to all staff, outside contractors and any other persons who enter controlled or supervised radiation areas.

### **5 Additional duties**

Provide a report to the Radiation Protection Group.