

IONISING RADIATION PROCEDURE

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HEALTH AND SAFETY Ionising Radiation Procedure

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The current version is available on the Health, Safety and Wellbeing website at:
[Health, Safety and Wellbeing Policies and Procedures - Ulster University](#)

Contents

1.0	Purpose	Page	2
2.0	Scope and Commencement	Page	2
3.0	Background	Page	2
4.0	Definitions	Page	2-3
5.0	Key Legal Requirements	Page	3
6.0	Responsibilities	Page	3-5
7.0	Procedure	Page	5-7
8.0	Resources	Page	7

1. PURPOSE

The purpose of this Procedure is to specify the arrangements in place for the management of ionising radiation, both sealed and open sources and from radiation generating equipment, within the University, to ensure compliance with statutory requirements and best practice.

2 SCOPE AND COMMENCEMENT

This procedure is applicable from May 2025 and covers work with ionising radiation on all campuses involving University staff, students and visitors.

3 BACKGROUND

This procedure details, for those working with ionising radiation in the University, the arrangements to minimise the risks generated by the activities, including where relevant the risks of exposure arising from the unavoidable generation of radioactive waste.

4 DEFINITIONS

RPA	Radiation Protection Adviser appointed under IRR(NI)17
MPE	Medical Physics Expert. To carry out dose/risk assessment for all radiation exposures proposed in studies involving persons, for example, DXA studies and to advise on dose constraints, quality assurance, practitioner and operator radiation protection training, and compliance with the Ionising Radiation (Medical Exposure) Regulations NI 2018 ("IRMER").
Senior RPS	RPS with responsibility for oversight of the work of other RPS's
RPS	Radiation Protection Supervisor - someone with additional training and responsibility to ensure day to day adherence to local rules
Competent Person	Someone with additional training and responsibility to ensure adherence with the terms of the Certificate of Registration and accumulation under the Radioactive Substances Act
Local Rules	Documentation drafted by the RPA, provided to the employer, detailing procedures to be followed in each specific area where ionising radiation is used.

Radiation User	Any member of staff or student who is authorised to work with ionising radiation.
Ionising Radiation	Electromagnetic or particulate radiation capable of producing ion pairs in biological material(s) but does not include electromagnetic radiation of wavelength greater than 100 nanometres.

5 KEY LEGAL REQUIREMENTS

- Health and Safety at Work (Northern Ireland) Order 1978
- Management of Health and Safety at Work (Northern Ireland) Regulations 2000
- Ionising Radiations Regulations (Northern Ireland) 2017
- Radioactive Substances Act 1993 (as amended)
- Ionising Radiation (Medical Exposure) Regulations NI 2018 (“IRMER”)

6 RESPONSIBILITIES

Please refer to the main Health, Safety and Wellbeing policy on the University’s website for further details on roles and levels of responsibility using the link:

https://www.ulster.ac.uk/_data/assets/pdf_file/0007/125647/Health-Safety-and-Wellbeing-Policy.pdf

Pro Vice Chancellors and Pro Vice Chancellor and Executive Deans, Associate Deans, Directors, Heads of Schools and Departments

Pro Vice Chancellors (PVCs) and Pro Vice Chancellor and Executive Deans (“PVC&ED”), Associate Deans (“AD”), Directors, Heads of Schools (“HOS”) and Departments (“HOD”) are responsible for appointing Radiation Protection Supervisors for their area for all work involving ionising radiation sources both open and/or sealed and X-ray equipment. In some areas it may be necessary to appoint a Senior RPS to oversee the work of several RPS’s. In some circumstances it may also be necessary to appoint a Deputy Senior RPS to ensure continuity of cover. In conjunction with the Health, Safety and Wellbeing (HSW) Team they will ensure that such supervisors meet competency requirements in respect of knowledge, training and experience. Each Portfolio, Faculty, School or Department will ensure that the necessary resource, e.g. time, equipment, facilities, is allocated to enable radiation protection measures to comply with best practice.

Where applicable the PVC, PVC&ED, AD, Director, HOS or HOD, in consultation with HSW, is also responsible for appointing a “competent

person” under the terms of the Certificate of Registration and authorisation under the Radioactive Substances Act. The “competent person” is normally appointed from amongst the RPS’s.

The PVC, PVC&ED, AD, Director, HOS or HOD will ensure that in all work with ionising radiations, the radiation exposures to all persons are as Low as Reasonably Practicable. The PVC, PVC&ED, AD, Director, HOS or HOD will ensure that all new work with ionising radiations, and any significant modifications are notified to HSW at least 42 days in advance of work commencing, so that the HSW team can ensure the University meets its statutory requirements regarding notification to HSENI.

Radiation Protection Supervisors

Radiation Protection Supervisors are responsible for the day to day supervision of any working involving ionising radiation sources to ensure adherence to the local rules. Their specific role and reporting arrangements and review mechanisms are detailed in writing in the Local Rules.

Senior Radiation Protection Supervisor

The Senior Radiation Protection Supervisor where appointed is responsible for the oversight of the work of other radiation protection supervisors. In addition, the Senior RPS is responsible for keeping records of isotope holdings, disposals and usage and ensuring that these are within legal requirements. The Senior RPS must issue local rules to Radiation Users annually and receive confirmation that these have been read and understood. The Deputy Senior RPS where appointed provides cover for these duties in the absence of the Senior RPS.

Competent Person

The Competent Person is responsible for ensuring day-to-day compliance with the terms of the relevant Certificate of Registration and authorisation under the Radioactive Substances Act. In addition, the competent person is responsible for the acquisition, storage, handling and disposal of radioisotopes in accordance with procedures developed in conjunction with HSW and the Radiation Protection Adviser.

Radiation Protection Adviser

Radiation Protection Adviser is appointed in writing by HSW on behalf of the University in accordance with the Ionising Radiations Regulations and must be a certificated RPA in accordance with the regulations. The RPA is responsible for advising the University on all matters relating to the use of ionising radiation. The RPA will write the local rules for each area in conjunction with RPS’s and users.

Medical Physics Expert

To carry out dose/risk assessment for all radiation exposures proposed in studies involving persons, for example, DXA studies and to advise on dose constraints, quality assurance, practitioner and operator radiation protection training, and compliance with the Ionising Radiation (Medical Exposure) Regulations NI 2018 ("IRMER"). The MPE will provide employers procedures for research projects using the DXA equipment and attend the DXA subcommittee meetings, to provide MPE and RPA advice.

The MPE is appointed in writing by HSW and will advise the University on compliance with IRMER.

Radiation User

Radiation Users are responsible for ensuring that they comply with the local rules at all times. To ensure the safety of Radiation Users and others, they must attend training every three years, understand local rules via annual confirmation to the Senior RPS and have knowledge of related risk assessments.

Health Safety and Wellbeing ("HSW")Team

HSW, in conjunction with the PVC, PVC&ED, AD, Director, HOS or HoD, will ensure that the RPS's meet competency requirements in respect of knowledge, training/refreshers training and experience. HSW are also responsible for the appointment of the Radiation Protection Adviser to the University and for ensuring that the appropriate HSENI authorisations are in place for the work practices being carried out. HSW will also ensure the annual notification of Competent Person(s) under RSA to Northern Ireland Environment Agency ("NIEA") and the appointment of MPE(s) as required.

7 PROCEDURE

7.1 PVC, PVC&EDs, ADs, Directors, HOSs and HODs through HSW must notify the University's Radiation Protection Adviser of all work involving ionising radiation. This includes the production, handling, storage, transport and disposal of radioactive material and the use of electrical equipment emitting ionising radiation at more than 5kV. Examples of work which may involve ionising radiation include:- the use of radio-isotopes, sealed radioactive sources within equipment (e.g. x-ray fluorescence, gas chromatographs containing radioactive sources and anti-static devices containing Po210 sources) and other equipment producing ionising radiation (e.g. x-ray diffraction, transmission and scanning electron microscopes, x-ray reflectometry, Auger electron scanning, bone densitometer, etc.).

7.2 The University's RPA in conjunction with HSW will advise each area on the steps to be taken to ensure compliance with the relevant legislation and best practice. This will include the requirement for suitable and sufficient risk assessments for the work and the appointment of a Radiation Protection Supervisor for the area and for the development of

and periodic review of local rules.

In line with the requirements of the Ionising Radiations Regulations, the University RPA must be consulted on:

- a) The prior examination of plans for installations and the acceptance into work of new or modified sources of ionising radiations;
- b) The periodic checks required to restrict exposure.

7.3 In order to ensure competence, the RPS will be required to attend initial certified training, and refresher training in line with best practice, in their role, as advised by the RPA, before being permitted to fully undertake their duties as RPS. RPS's are responsible for the day to day supervision of any work involving ionising radiation and for ensuring that the local rules are followed at all times. Other specific duties and reporting arrangements will be detailed in writing in the Local Rules.

7.4 Each radiation user is also required to attend training specific to their particular requirements as advised by the RPA. Each user must follow the local rules at all times.

7.5 For work involving radioactive substances for which a Certificate of Registration or authorisation is required under the Radioactive Substances Act a "competent person" will be appointed. The "competent person" is responsible for ensuring that the terms of the Certificate are met at all times. This person is required to make themselves available for inspections by the Northern Ireland Environment Agency. Such inspections are co-ordinated through HSW.

7.6 Regular monitoring and inspection in line with local rules will be required for each area where work with ionising radiation is undertaken. Records of such monitoring must be kept for future inspection.

7.7 Radon – the HSW team will ensure that radon assessments have been carried out for all workplaces within the University, seeking advice from the RPA and ensuring compliance with IRR(NI)17.

7.8 Any changes in the Local Rules, including changes in individuals appointed as RPS's, must be made in consultation with HSW as soon as reasonably practicable. All changes in local rules must be cascaded to the local Radiation Users.

7.9 The RPA will be a specialist adviser to the relevant statutory health and safety committee. In some areas, on the advice of the RPA and HSW, a Radiation Protection Committee may be established. Where such a Committee exists it will also report to the relevant statutory health, safety and wellbeing committee. All Northern Ireland Environment Agency and HSENI reports will be sent to the relevant Statutory Committee for monitoring purposes.

7.10 Should an accident/incident occur, please follow the local rules and complete the UU Accident/Incident Reporting Form which can be found [here](#):

7.11 Records of training specified above must be maintained on the Learning Management System.

8 RESOURCES

- Health and Safety at Work (Northern Ireland) Order 1978
- Management of Health and Safety at Work (Northern Ireland) Regulations 2000
- Ionising Radiations Regulations (Northern Ireland) 2017
- Radioactive Substances Act 1993 (as amended)
- The Ionising Radiation (Medical Exposure) Regulations 2017
- L121 Work with ionising radiation - GB ACOP approved for use in Northern Ireland