Safety Policy Arrangement 54-2011 Ionising Radiation Management

Policy Statement
The University of Dundee is committed to ensuring risks from sources of ionising radiation are managed effectively by carrying out risk assessments that are comprehensive, proportionate to the level of potential harm, involve staff and are communicated clearly to staff and students so that they understand their responsibilities.

Arrangements
All work involving sources of ionising radiation will be carried out in accordance with the Ionising Radiation Regulations 1999 (IRR99) and the Radioactive Substances Act 1993 (RSA93). Management of Ionising Radiation at the University of Dundee’s City Campus is overseen by the University Radiation Protection Adviser (RPA) and appointed Radiation Protection Supervisors (RPS). Management of Ionising Radiation at the University of Dundee’s Medical School is contracted out to the Department of Medical Physics and the NHS Trust RPA.

Responsibilities
Line management responsibilities are as outlined in the University Health and Safety Policy. Specific radiation safety responsibilities are as follows:

Radiation Safety Sub-Committee
- Report to Health and Safety Sub-committee on risks posed to people and the environment by ionising and non-ionising radiation created by the undertakings of the University, and the safety measures adopted to control these risks to an acceptable level
- Formulate, develop and revise radiation safety policy arrangements
- Monitor the implementation of safety measures to control ionising and non-ionising radiation risks
- Oversee the training requirements to control ionising and non-ionising radiation and monitor the effectiveness of training programmes
- Review accident/incident reports involving ionising and non-ionising radiation and amend safety measures if required
• Review risk assessments
• Give authorisation for work involving ionising and non-ionising radiation to proceed after consideration of:
  o Risk Assessment
  o Laboratory Facilities
  o Staff and Student Training and Supervision
  o Local Rules
  o Statutory Notification and Consent Requirements
• Assess and monitor the provision of occupational health for University employees exposed to ionising and non-ionising radiation

University Radiation Protection Advisory Service

• submit to the Scottish Environment Protection Agency (SEPA) all requests for registration and authorisation under the Radioactive Substances Act 1993;
• receive a copy of all orders for radioactive materials;
• receive advance notification of removal of radioactive materials to other premises within or outside the University;
• to receive from Radiation Protection Supervisors (RPSs), at intervals determined by the Radiation Protection Adviser (RPA), a report on the receipt, disposal and stock of radioactive materials within a department;
• to organise the disposal of solid and scintillator radioactive wastes and to keep records of these disposals;
• to organise the issue of personal monitors and to take appropriate action in cases of positive results;
• to supervise the clearance of controlled or supervised areas for normal use if they are no longer to be designated areas;
• to ensure that closed radioactive sources are leak tested within statutory intervals and that the results are recorded;
• to provide training courses in radiation safety;
• to initiate procedures necessary for the control of any incident in which emergency procedures are required.
Radiation Protection Supervisors (RPSs)
The Dean of the School in which ionising radiations are used will appoint a RPS as required by the Ionising Radiations Regulations 1999. A Dean retains overall responsibility for compliance with the Regulations.

The general function of an RPS is to take reasonable steps:

- to ensure compliance with IRR99 and the ACOP and
- to ensure that local arrangements for radiation protection are observed

The RPS must be kept aware of all radiation work in the department.

In particular an RPS should:

- Inform the RPA of any significant changes in the work carried out within a controlled, supervised or other registered area.
- Arrange for written systems of work for entry of non-classified persons to controlled areas. This should be done in consultation with the RPA.
- Arrange that orders for radioactive materials submitted by individual workers are placed only on the special forms for these materials. The forms must be signed by the RPS or a formally authorised deputy and by the person responsible for ordering the material. A copy of the completed form must be sent to the RPA at the time of its dispatch to the supplier.
- Inform the RPA if it is known that radioactive material enters the school from a source other than a commercial supplier.
- Inform the RPA of the intention to move radioactive materials to other schools or institutions.
- Inform the RPA immediately of any known loss or theft of radioactive materials.
- Take reasonable steps to ensure that the activities permitted in the registration and authorisation certificates under RSA93 are not exceeded. Copies of both certificates must be posted conveniently in the department.
- Keep the necessary records of stocks of radioactive materials in the department. These records must comply with the requirements of both RSA93 and IRR99. A summary of the records must be sent to the RPA at intervals determined by the RPA.
- Submit to the Radiation Safety Sub-Committee, via the RPA, proposals for registration of work and of workers involved with ionising radiations.
- Arrange the distribution and collection of personal dosimeters.
• Arrange for appropriate contamination monitoring records to be kept in compliance with IRR99.
• Investigate reported radiation incidents in accordance with emergency procedures, in collaboration with the RPA.

Responsibilities of Individual Workers
The Ionising Radiations Regulations 1999 require that employees who work with ionising radiations:

• do not knowingly expose themselves or any other person to ionising radiations to an extent greater than is reasonably necessary for the purposes of their work, and exercise reasonable care while carrying out such work.

Individual workers therefore have a serious responsibility towards themselves and others. They must be certain that they:

• are familiar with the relevant codes of practice,
• are familiar with the main physical properties and biological effects of the radionuclides or other sources of radiation they are using,
• have taken adequate precautions to reduce the radiation and contamination hazards,
• have available adequate monitoring equipment which they know how to use and the readings of which they can interpret,
• know what to do in the case of an accident.

In addition to these general responsibilities, it is required that individual workers:

• apply for registration as radiation workers,
• submit proposals for new projects involving ionising radiations, or modifications of current projects, to the RPS for registration,
• order radioactive material only according to procedures laid down by the RPS,
• inform the RPS in advance if they are to receive radioactive materials from a source other than a commercial supplier,
• notify the RPS of the intention to transport radioactive material outwith the laboratory,
• undergo training in radiation safety unless the RPA is satisfied that they have adequate previous experience,
• wear any personal monitors issued to them,
• carry out routine monitoring of surfaces in their working area,
• inform the RPS immediately of the loss or theft of radioactive material,
• maintain records of radioactive waste disposal in the form required by the RPS,
• in the case of academic staff members, ensure that safe working procedures are followed by any undergraduate, research student or technician under their supervision.

Registration
All users and procedures that make use of sources of ionising radiation must be registered with the RPA using the corresponding form:

Users of source(s) of ionising radiation must complete a RADPER form. This form will register the user and the source(s) of ionising radiation they will be using. It should be completed by the user with the assistance of their RPS and submitted to the RPA for approval. If there is any change in the users’ usage in terms of isotopes used, activity or time of exposure then the RADPER must be updated and the RPA notified.

All Procedures involving source(s) of ionising radiation must be registered using a RADNUC form. This will be completed by the RPS and submitted to the RPA for approval. A RADNUC form can register a specific activity involving source(s) of ionising radiation or an area where several activities involving source(s) of ionising radiation will take place.

All Premises must also be registered and authorised to carry out work with source(s) of ionising radiation but it should be noted that this will involve outside regulatory bodies and can take several months and be costly so prior planning is essential. If you plan to carry out a procedure in an area that has not been previously used for work involving source(s) of ionising radiation please ensure you contact the RPA as soon as possible.

Risk Assessment
All work with sources of ionising radiation must be risk assessed prior to work commencing.
The University RPA has produced a series of generic risk assessments for the most commonly used sources of radiation within the University of Dundee. These risk assessments must be read by all users who will be making use of the corresponding source of ionising radiation. If a user plans to use a source of radiation that has not been previously risk assessed by the RPA or in a quantity/activity out with the scope of the generic risk assessment then the RPA must be contacted so that a specific Risk Assessment can be produced. A similar system is used in the Medical School where Medical Physics produce the necessary risk assessments.
Guidance

Guidance on the implementation of radiation safety within the University of Dundee can be found in the three Radiation Safety Handbooks: Protection Against Ionising Radiation, Safe Handling of Radioactive Materials, and Management of Solid Radioactive Waste.