

# Safe Use of Ionising Radiation Code of Practice

## Reviews and Revisions

Action	Date	Reason	Reviewer
Production of new document	17/5/16	Required to set standards	LRounds
Document Control	20/07/2017	Document Control	S Hewes
Change of RPS	16/10/17	Change of RPS	E Pritchard
Application of IRR17, including RPA comments	14/02/17	Updated regulation; creation of compliance matrix	A Sampson

## 1 INTRODUCTION

The policy aims to ensure the safe and consistent handling of radioactivity (open or closed sources) at the University, and compliance with:

This Code of Practice describes the rules and responsibilities, which have been defined to ensure a high standard of radiological protection is in place, and compliance with:

- Ionising Radiations Regulations 2017 (IRR17)
- Environmental Permitting Regulations (England and Wales) 2016
- Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (CDG 2009)
- Radiation (Emergency Preparedness and Public Information) Regulations 2001 (REPPIR)
- Hazardous Waste Regulations 2005

## 2 DEFINITIONS

ALARP	As Low as Reasonably Practicable
Dose Investigation Level	Effective dose in any calendar year that if reached would trigger a review of working conditions.
Classified Worker	A person who could receive an effective dose which breaches regulatory limits
Designated Areas	Controlled or Supervised Area: where it is necessary for a person to follow special procedures or where a person's effective dose breaches regulatory limits
Master Inventory	Live document retained in SharePoint, maintained by the Department Radiation Protection Supervisor for all radioactive sources.
Bq	Becquerel, S.I. unit of activity ( $s^{-1}$ ) (kBq = Bq x 10 <sup>3</sup> , MBq = Bq x 10 <sup>6</sup> , GBq = Bq x 10 <sup>9</sup> , TBq = Bq x 10 <sup>12</sup> )
C <sub>14</sub>	Radioisotope of carbon
Ci	Curie, unit of activity. $3.7 \times 10^{10}$ Becquerels $s^{-1}$ - ( $\mu$ Ci = Ci x 10 <sup>-6</sup> , mCi = Ci x 10 <sup>-3</sup> )
H <sub>3</sub>	Radioisotope of hydrogen
IRR	Ionising Radiations Regulations
RPA	Radiation Protection Advisor
Sv	Sievert, S.I. dose equivalent unit ( $m^2s^{-2}$ ) ( $\mu$ Sv = Sv x 10 <sup>-6</sup> , mSv = Sv x 10 <sup>-3</sup> )
XRPD	X-Ray Powder Diffractometer

## 3 GENERAL PRINCIPLES

Work with ionising radiations at the University may only be considered for authorisation if the following can be demonstrated:

### 3.1 Justification

Introducing a new radiation source, should achieve sufficient individual or societal benefit to offset the detriment it causes.

### 3.2 Optimisation

Exposure to ionising radiation is "As Low as Reasonably Practicable" (ALARP). To assist in achieving this, a Dose Investigation Level of 1 mSv (effective dose) per year is applied.

### 3.3 Dose Limits

Ensuring doses received by individuals do not exceed the limits specified in Schedule 3 of ORR17.

## 4 RESPONSIBILITIES

### 4.1 Assistant Director – Health and Safety (ADHS)

Approve the appointment of the Radiation Protection Supervisor, (RPS), and the Radiation Protection Advisor (RPA) and the Radiation Waste Advisor (RWA).

Where Classified Workers are identified, procure the services of an Appointed Doctor.

**4.2 Radiation Protection Advisor/ Radioactive Waste Advisor** (Mr L Fullerton. PEAK RPA Ltd PO Box 85, Buxton, Derbyshire, SK17 6WT)

Advise on:

- Exposure control
- Maintenance of engineering controls.
- Identification of Designated areas.
- Control of access to Designated Areas.
- Dosimetry and monitoring.
- Writing up systems of work and local rules.
- Investigation of exposures.
- Training.
- The restriction of exposure of female individuals.
- Risk assessment and contingency arrangements.
- Prior examination of any plans for new plant or premises or modifications to existing plant
- Compliance issues relating to permits issued under the Environmental Permitting Regulations or IRR17.

Carry out:

- Annual radiation leakage checks on all ionising radiation generators
- Annual checks of radiation monitors
- Checks on internal monitoring records

#### 4.3 Responsibilities of the University Radiation Protection Supervisor (URPS) (Mr. S Hewes, Senior Health and Safety Advisor; Anita Sampson, Senior Health and Safety Advisor)

The URPS must have suitable knowledge and experience of working with Radioisotopes and must complete a suitable RPS training course on open and closed sources, and complete refresher training every 5 years to maintain competency levels.

- Implement and maintain systems of work to assure compliance with the requirements of legislation and licences.
- Ensure that work with radiation sources is covered by a suitable and sufficient risk assessment.
- Monitor the systems for correct operation.
- Supervise audits and inspections by regulatory agencies and other interested parties.
- Carry out regular audits on all aspects of the procedures.
- Maintain contact with the RPA/RWA.
- Ensure that cover is provided for advice on radiological protection at all times.
- Ensure that the Environment Agency, Health and Safety Executive, or the police, as appropriate, are informed of variance from licensed values, overexposures or loss of material, respectively, as or if required.
- Maintain contact with external sources of information to ensure a proactive approach to system management.
- Ensure all necessary Permits are appropriate and in place for acquiring, holding, and disposing of radioactive substances.
- Approve and register areas as suitable for work with ionising radiation, ensuring that the appropriate conditions required for work with ionising radiation are available.
- Notify regulatory bodies of relevant changes to or cessation of work with radioactivity
- Submit a summary of disposals and discharges to the Environment Agency for a calendar year within the first month of the following year.
- Provide information and instruction with regard to the application of ionising radiation legislation and controls.
- Take the lead role in investigating any incidents.
- Approve and register personnel as suitable to be involved in work with ionising radiation, ensuring the appropriate training is provided.

#### 4.4 Responsibilities of Departmental Radiation Protection Supervisors (DRPS)

The DRPS must have suitable knowledge and experience of working with Radioisotopes and must complete a suitable RPS training course on open and closed sources and complete refresher training every 5 years to maintain competency levels.

##### General

- Ensure that all work with radiation sources in the department is covered by risk assessment, and notify the URPS in advance of any new activities for which a revised or new risk assessment is required.
- Compile and maintain local area rules and assist in the implementation of contingency plans.
- Review annually the departmental local rules

- Ensure local rules are read and understood by all handlers of radioactivity within their department
- Deputise for the URPS when requested.
- Maintain systems of work within their departments to assure compliance with the site requirements of legislation and licences.
- Monitor the systems for correct operation.
- Carry out regular inspections on all aspects of the manual within the department.
- Maintain contact with the URPS.
- Ensure the URPS is notified of any incidents or accidents involving radiation sources.
- Ensure that cover is provided for advice on radiological protection at all times.
- Maintain records of contamination monitoring as detailed in the local rules.
- Maintain the Master Inventory

### **Area Designation**

- Ensure Designated Areas are identified and controlled appropriately.
- Consult the URPS with regard to any proposed changes in area designation.

### **Radioactive Disposals**

- Ensure waste is recorded and packaged correctly before collection by Campus services
- Ensure wastes are disposed of in accordance with the conditions of applicable permits
- Maintain records of disposed wastes

### **Staff safety**

- Along with the URPS, provide information, instruction and training to individuals with regard to the application of ionising radiation legislation, controls, and associated potential effects in the working environment.
- Arrange for suitable training for personnel involved with radioactive work activities.

### **Sources and Ionising Radiation Equipment**

- Ensure department stock limits are not exceeded by conducting quarterly checks
- Obtain approval from the URPS for any new sources, or equipment, which produces ionising radiation in operation.
- Inform the URPS of any new or relocated sources or equipment, which produces ionising radiation in operation.
- Ensure that suitable safety interlocks, and procedures for operating and maintaining such equipment are in place and operational.
- Ensure that systems are in place for regular monitoring where necessary, and review the test records.
- Ensure sources are leak tested or replaced at intervals not exceeding 24 months.
- Ensure that all radiation monitoring equipment on site is tested at intervals not exceeding 12 months.

## **4.5 Responsibilities of Individuals**

- Carry out procedures with radioactive substances in a manner, which ensures that they and any non-radiochemical users who may be exposed to ionising radiation within their area are protected.
- Work in accordance with local rules.
- Ensure the correct wearing of PPE.
- Take part in personal monitoring procedures, as required.

#### 4.6 Responsibilities of the Sustainability Advisor

- Ensure the URPS approves the disposal or relocation of all equipment or sources.
- Provide a service for the removal of solid and organic liquid radioactive waste from the laboratory areas, and provide information on each collection to the URPS.

## 5 EXPOSURE RISK AND HAZARDOUS PROPERTIES OF RADIOACTIVITY

Exposure to radioactivity can occur by ingestion, skin penetration or inhalation, with the resultant adverse effects dependent upon the activity, dose and toxicity of the material. The exposure potential will be directly related to the nature of the radioisotope and its activity.

## 6 ASSESSING THE RISKS OF WORKING WITH RADIOACTIVITY

A risk assessment must be carried out prior to working with radioactivity. The principal investigator will complete the risk assessment taking into account:

- **Where** are radioactive materials likely to be used?
- **What** radioactive materials are being used?
- Is **exposure** likely?
- **Who** is likely to be exposed?
- Can the exposure be **prevented**?

If the exposure cannot be prevented, estimate the *potential level of exposure*.

Where information or previous experience is lacking particular efforts should be made to search for and collect as much information as possible on the materials and similar applications. The starting point for this will usually be the suppliers Safety Data Sheet or technical specification.

Risk assessments should be reviewed at least annually to ensure they remain suitable and sufficient.

Risk assessments covering the use of:

1. Unsealed Radionuclides During Routine Laboratory Work
2. X-Ray Equipment
3. Hand Held XRF

**have been completed and are available here.** Anyone planning to work in accordance with these risk assessments, must review the details to ensure their scope of work is covered, and that they are applicable to their work.

## 7 ACCIDENT/INCIDENT REPORTING

Where an incident occurs, that results in the potential or actual exposure of any individual to radioactivity, even if there is no apparent health effect, it must be recorded on the [University Accident/Incident reporting system](#). The Central Health & Safety Team must be immediately informed as such an occurrence may be reportable to the Health and Safety Executive and/or Environment Agency.

Occupational Health shall review the circumstances of the exposure and ensure an appropriate entry is made on the individual's health record, and if deemed necessary invite the individual to attend an appointment.

The above records must be kept for **40 years** and be available for inspection.

## 8 UNIVERSITY PROCEDURES

### 8.1 Ordering and Receipt of Materials

The radioactive substances on site are permitted as either closed or open sources. The same procedures for ordering and acquisition apply.

#### Ordering from Approved Suppliers

The requestor should prepare the purchase requisition and obtain authorisation to purchase from the DRPS. The DRPS will seek permission from the URPS prior to ordering to ensure it is in line with licence requirements; in addition, they will check stock levels to ensure there is adequate holding capacity for the new materials and will inform Campus Services of date of delivery.

#### Receipt of Materials

Campus Services will receive the materials. Any consignment bearing the radiation hazard symbol, or the excepted package code UN2910 shall be taken directly to the addressee.

The addressee shall check the contents and documentation on receipt of the goods, and send a copy of the documentation to the URPS. The receipt of the material shall be recorded in the addressee's department stock records.

### 8.2 Storage of Materials

All closed sources should carry the radiation hazard symbol and the word "radioactive", on equipment.

Storage areas shall be:

- secure;
- fireproof and constructed from non-combustible material;
- be reserved for radioactive materials; and
- be suitably labelled.

### 8.3 Sources Subject to Registration

Closed sources, Carbon 14 and Caesium 137, are registered with the Environment Agency and must be handled under the conditions of the associated Environmental Permit. (BZ6554)

Open sources, Tritium and any other radionuclide (except alpha emitters), are registered with the Environment Agency and must be handled under the conditions of the associated Environmental Permit. (BZ6562)

Radioactive wastes (aqueous, organic and solid) shall be accumulated and disposed of only in accordance with the associated Environmental Permit (BZ1951).

All sources identified on the Master Inventory have been notified or registered to, or had consent received from, the Health and Safety Executive.

Compliance requirements as defined by permits are given in Appendix 1.

#### Sources Exempt from Registration

The Barium-133 closed sources are used as references in scintillation counters. Any leakage of radiation from the source, should it occur, would be detected by a rise in background radiation count rate of the instruments, which are in regular operation.

Strontium 90 and Americium 241 sources can be used without a licence.

### 8.4 Accumulation of Radioactive Waste

The conditions relating to the accumulation of radioactive waste prior to disposal are governed by the conditions laid down in the permit issued by the Environment Agency.

#### Site Limits:

Specified type of waste	Radionuclides or group of nuclides	Activity limit	Volume limit	Period limit
Aqueous waste	Tritium/Carbon 14	100 MBq	0.025m <sup>3</sup>	14 Days
Aqueous waste	Other radionuclides except alpha emitters (in total)	100 MBq		
Organic liquid incl. scintillant	Tritium/Carbon 14; scintillant	20 MBq	0.05m <sup>3</sup>	6 Months
	Other radionuclides except alpha emitters (in total)	20 MBq		



VLLW	Any radionuclide not listed above	VLLW	No limit	14 days
Solid waste	Tritium/Carbon <sup>14</sup>	200 MBq	2m <sup>3</sup>	6 months
	Other radionuclides except alpha emitters (in total)	200 MBq		

For <sup>3</sup>H and <sup>14</sup>C the Very Low Level Waste activity limit is a total of 4 MBq per 0.1 m<sup>3</sup> of lab waste subject to an item limit of 400 kBq. For all other radionuclides these limits are 10 times lower.

Organic liquid waste comprises principally of used solvents from chemical reactions and used scintillant from HPLC and counting.

Solid waste may be accumulated in the forms of general radioactive waste (discarded PPE, tissues, tubes, plates) Note that the VLLW disposal route rather than the Solid Waste for incineration route may be suitable for at least some of this waste. The Solid Waste disposal route will be used for material with high activity concentration, generally from spent stationary phases from chromatography columns.

For the general radioactive waste, accumulation occurs in designated and suitably labelled yellow radioactive waste bins or bins containing a yellow bag, until such time that the bag is collected for disposal.

## 8.5 Disposal

### Disposal of Radioactive Waste

In order to exercise control, aqueous waste limits have been allocated to each working area, including a margin of safety to prevent the possibility of excess discharges. These limits are recorded on departmental inventories, and are detailed in the local working rules. All waste is disposed of via an authorised waste disposal contractor as detailed on the site permit issued by the Environment Agency.

Types of radioactive waste and permitted disposal limits

Specified waste type	Disposal out reference	Radionuclides or group of nuclides	Limits	Daily limits
Aqueous waste	The drainage system of the premises authorised for disposal	Tritium/Carbon <sup>14</sup>	1 GBq (Monthly)	NA
		Other radionuclides except alpha emitters (in total)	200 MBq (Monthly)	NA

Organic liquid waste	<b>Grondon Waste Management.</b> Lakeside road, Colnbrook, Berkshire. SL3 oEF or <b>White Rose Environmental.</b> Knostrop waste to energy facility. Knowesthorpe Lane. Leeds. LS9 oPJ	Tritium/Carbon 14	20 MBq (annual)	NA
		Other radionuclides except alpha emitters (in total)	20 MBq (annual)	NA
Solid waste	<b>Grondon Waste Management.</b> Lakeside road, Colnbrook, Berkshire. SL3 oEF or <b>White Rose Environmental.</b> Knostrop waste to energy facility. Knowesthorpe Lane. Leeds. LS9 oPJ	Tritium/Carbon 14	200 MBq (annual)	
		Other radionuclides except alpha emitters (in total)	200 MBq (annual)	

Any disposal of radioactive material to the drain should be carried out by flushing with plenty of water and records retained. The activity of each discharge to drain will be entered, along with a cumulative total. Attention should be paid to the action limit quoted; if a planned disposal would cause the action limit to be breached, the head of the department and the URPS should be consulted before such a disposal proceeds. Further instructions will then be given for any more disposals during that month. If there is the potential to exceed the University limit, the URPS may authorise taking up aqueous waste on an absorbent for removal as solid waste.

The liquid waste removed from the site is organic liquids and scintillate; other liquids may be taken up on an absorbent material and treated as solid waste. There may on occasions be a need to remove materials classifiable as radioactive, but not used for such purposes, such as uranium and thorium salts. In these specific cases, the URPS should be consulted with regard to disposal procedures. Contaminated equipment should be treated as per solid radioactive waste.

### Waste Collection

At least two days' prior collection, a consignment form shall be completed, summarising the waste type, isotopes and activities and authorised by the DRPS or designated deputy RPS. This shall be sent to the Sustainability Advisor who will organise collection and disposal.

## 9 CONTROL OF RADIOACTIVE SUBSTANCES

All radioactive substances shall be stored in appropriate vessels in a secured containment area when not in use. When using radioactive substances precautions should be taken to ensure any spillages that may occur are suitably contained and will not cause long term contamination.

Each department using radioactivity shall have at least one RPS.

### 9.1 Monitoring Equipment and Testing

Prior to starting work the individual will check that they have a working contamination monitor suitably calibrated and registered.

Surface contamination monitoring should be carried out in individual work areas during and after the work, and on individuals to check for personal contamination before leaving the area.

All monitoring equipment will be checked by the RPA on an annual basis and records of these checks maintained by the individual department. Any monitoring equipment that does not have a current calibration sticker must be taken out of service immediately and alternative arrangements made.

Any reading above normal background will require action i.e. decontamination.

### 9.2 Designation of areas

Designation of areas can be found in the local rules.

Designation of areas shall will be determined by risk assessment. The default designation in laboratories where unsealed radioactive materials are being handled in limited amounts is a **SUPERVISED** area. Whenever a specific area is to be designated for the first time, or the existing designation is to be changed, an application must be made to the URPS confirming the work is covered by a risk assessment, and that the facilities meet the required standards.

In certain areas, work with ionising radiation may be conducted on an irregular or infrequent basis. In such cases temporary designation of an area will be placed at the area's entrance whilst the work and any subsequent decontamination operations are in progress. A sign will be installed to show the level of designation given, radiation symbol, the isotope in use and its activity, the anticipated range of dates during which the room will be required, along with authorisation signatures from a responsible person in the department concerned and the URPS. On completion of work in the area and subsequent contamination monitoring, the sign will be removed and a record of the room's use for work with ionising radiation filed by the DPRS, along with the contamination monitoring record.

Authorisation for temporary designation and de-designation will be given under the same procedures as for permanently designated areas.

#### Supervised Area

Benches and floors in these areas must be non-absorbent and easily cleanable and in addition floor surfaces must be continuous. At least one sink within the area must be identified as suitable for the

disposal of aqueous radioisotopes. Hand washing facilities, which can be operated by elbow, must be available. Furthermore, the area must be well ventilated.

### **Controlled Area**

Access to a Controlled Area is restricted to named personnel, approved by the URPS. These areas must only be entered/used under strict written systems of work.

The provision of a fume hood is essential and ventilation may require special measures. All surfaces must be non-absorbent and capable of being easily cleaned. Shielding of some form may be required in these areas and at least one suitably identified sink within the area must be provided for the disposal of radioactive aqueous waste. Hand washing facilities (elbow operated taps) and monitoring facilities must be available near the entrance to the area.

## 9.3 Communication to Workers

All users and handlers of radioactive materials with the potential for exposure in their work must receive appropriate information, instruction and training for the position held.

### **Classified Workers**

Classified workers have the potential to receive significant exposure in their work. They must have suitable knowledge and experience of working with Radioisotopes and must complete a suitable RPS training course on open and closed sources and complete refresher training every 5 years to maintain competency levels.

### **Users**

This category covers the majority of individuals on site and shall receive basic radiation awareness and protection training; they not expected to receive significant exposures.

### **Handlers**

Handlers are the individuals who do not work with radioactive materials but are involved in transporting them through the University, either as new deliveries or as waste. They shall be given basic radiation awareness and protection training commensurate with their duties.

## 9.4 Training

Every employee who undertakes work with ionising radiation must receive suitable and sufficient information, instruction and training to enable him/her to conduct that work in accordance with the current legislation, the Local Rules and the Radiochemical Practices detailed in this document. The standard of training is that recommended and approved by the RPA. This includes sufficient detail to fulfil the objectives:

- To be familiar with the types and properties of ionising radiation
- To be familiar with the terminology used in radiation protection
- To be aware of the legal requirements associated with the use of radioactivity or other sources of ionising radiation

- To understand the risks associated with ionising radiation and the steps which are taken to keep these to a minimum
- To be prepared for an emergency

The detail within each topic will be dependent on role.

Retraining will take place at periods no longer than five years after the previous training. A list of all authorised radiochemical workers at the University is maintained by the URPS.

## 10 CONTAMINATION MONITORING

Monitoring should take place between successive operations in any particular area, using an appropriate monitoring procedure (e.g. LSC swabs for H<sub>3</sub> or mixed isotopes), to ensure that cross contamination affects neither the integrity of quantitative analyses or the health and safety of those involved. Devices, equipment or surfaces monitored will depend on the nature of the work carried out. The frequency of contamination monitoring shall be detailed in the local rules.

### 10.1 Surface contamination action levels

Where there is surface contamination, action will be taken to decontaminate, or failing this, to replace the device or surface. In no circumstances is it permissible to accept contamination levels of any value, or to accept removable contamination if it is feasible to reduce them by appropriate decontamination procedures; the constant aim is to reduce exposure to levels, which are as low as is reasonably practicable.

Floor washing frequency shall be detailed in the local rules. Aliquots will be taken to determine if there is any contamination on the floor. For routine monitoring it is recommended that the DPM for the aliquot taken is compared with the action level. The action level should be set at twice the average reading for the previous rolling 12 months.

Where contamination is considered to be fixed the register for fixed contamination will be completed by the URPS.

### 10.2 Personal Monitoring

The need for individual monitoring will be determined by the risk assessment. As a guide, however, the following general policy will apply:

- All classified workers will be subject to individual monitoring
- Persons working in supervised areas are not expected to require routine individual monitoring.

The need for monitoring after an accident (e.g. for reassurance purposes) should be considered in the risk assessment.

- The need for individual monitoring should be a consideration for work in controlled areas.

## 11 CONTINGENCY PLANNING

In the case of a radiochemical accident or emergency the four main priorities are:

- The protection of human life.
- The protection of employee health and safety by immediately removing any radioactive contamination on their persons.
- Containment and/or prevention of the spread of any free radioactive material
- The removal of any resultant radioactive contamination from the building and equipment.

The four main incidents to which these principles apply are envisaged to be: -

- Accidental intake of radiochemical material via inhalation, ingestion or through a wound or from the escape of gaseous radiochemical material.
- Accidental spillage of radiochemical material.
- Fire in a designated radiochemical area.
- Loss of radioactive material.

### 11.1 Accidental Intake of Radiochemical Material

Where such intake is through a wound, immediately irrigate the area with water from the nearest sink irrespective of whether or not it is designated for radiochemical work. Seek medical attention as soon as possible. Medical staff must be told that radioactive material has been/may have been in contact with the wound. The Occupational Health staff must contact the URPS for advice. The URPS will gather facts about the incident, ensure that the working area in which the incident occurred has been left in a safe condition and contact the RPA, acting immediately upon advice given.

Where intake is through the escape of gaseous materials the employee must evacuate and seal off the area ensuring that no other employees may enter and then immediately seek help.

### 11.2 Accidental Spillage of Radiochemical Material

Steps shall be taken immediately to restrict the further dispersal of the material in such a way that it does not affect any individual's health and safety. Skin and clothing should be checked for radioactive contamination followed by decontamination as necessary using soap and water, taking care not to break the skin. The URPS should be informed, who will re-check for bodily contamination and assist in the decontamination of the area in which the spillage occurred. Should bodily decontamination prove difficult to effect or if ingestion is thought to have occurred, the URPS will contact the RPA and act immediately upon advice given.

### 11.3 Fire in a Radiochemical Area

Should the fire alarm sound whilst work is proceeding in a radiochemical area, radioactive material containers should be closed, except where this could cause undue delay, and the building evacuated immediately in the normal way. If a fire is observed in a radiochemical area, the alarm should be raised immediately. Fire Marshals should be informed as to the state of the area vacated. If an individual is found to have been trapped or incapacitated in a radiochemical area during a fire, their

rescue by the fire service rescue team must be effected irrespective of any likely radiochemical hazard. Where rescue team members have the potential to have been contaminated, decontamination must be carried out outside the University.

#### 11.4 Loss of Radioactive Material

Any loss or suspected loss of radioactive material (including waste) from any area, must be reported immediately to the UPRS, who will in turn advise the Environment Agency and the police, as required by the site Permits.

## 12 LOCAL RULES

Local rules are required for: -

Health and Life Sciences  
Arts Design and Social Sciences  
Engineering and Environment

Template for local rules

- Description of department
- Justification
- Description of the source
- Control measures
  - Lab design
  - Ventilation/ engineering control measures
  - Access restriction
  - Warning devices
  - Safe systems of work
  - Storage and disposal
  - Training
  - Dose limits
- Structure for controlling radioactivity
- Name of URPA, URPS and DRPS and telephone number
- Estimation of radiation hazard
- Laboratory arrangements
- Laboratory rules
- Contamination monitoring
- Decontamination procedures
- Emergency arrangements