

# Duties of Radiation Protection Supervisors



LR - 5

## Who should read this document

This document should be read by Heads of Department, Radiation Protection Supervisors, users of ionising radiations and their supervisors.

## Duties with regard to the Environment Permitting Regulations 2010

### Duty

- 1 To ensure that the activity of each radionuclide in open sources kept or used in the department does not exceed the relevant activity specified in allocations made to the department by UCL.

To ensure that sealed sources kept and used in the Department have been authorised by the RPC.

- 2 The RPS shall, so far as reasonably practicable, ensure that;
  - a) radioactive waste generated within the Department is disposed of via the route specified in the departmental allocation
  - b) the total disposal for each route does not exceed the departmental allocation
  - c) the disposal of any sealed source is discussed first with the Radiation Protection Officer (RPO).
- 3 The RPS shall ensure that any allocated radioactive material is not lent or hired unless it is to a person/organisation registered under the Environment Permitting Regulations 2010 to keep or use such a substance.

### Guidance

This is best achieved by record keeping and by ensuring that the RPS signs, on behalf of the Head of Department, all orders or transfer documents for radioactive materials, each time checking that the radionuclide is in fact authorised and that the set limits are not exceeded. Any orders which, if fulfilled, would exceed the departmental allocation, must be discussed with and justified by the person requiring the activity. If the request is justified the RPS must ensure the departmental allocations are amended before the order/transfer takes place. Contact the Radiation Permit Co-ordinator.

Copies of orders and transfer documents must be both kept in the Department/Unit and sent to the RPC.

Contact the RPO before purchasing or otherwise acquiring a sealed source. The RPO maintains records ensuring that UCL remains within the limits set by Permits.

New users of radioactive materials should be informed of the disposal routes available before they start work

Each Group in the Department should be given their own allocations which are kept up to date

Contact RPO before disposing of any sealed source

This is best achieved by the RPS ensuring that all movements of radioactive materials out of the department are first sanctioned by him/herself. The recipient should be contacted and a copy of the relevant Permit(s) obtained.

If the recipient is a Member State of the European Union you should check that the recipient is permitted to receive the material under local legislation. This includes sealed and high activity sealed sources.

In case of difficulty contact the RPO.

- 4 The RPS shall, so far as is reasonably practicable, prevent:
  - a) the loss of any allocated material or accumulated radioactive waste.
  - b) access to any allocated material or accumulated radioactive waste by any person not authorised by the department.
  
- 5 The RPS shall, as far as is reasonably practicable, ensure that each allocated radionuclide or accumulated radioactive waste is kept in accordance with the Departmental Local Rules, and;
  - a) under continuous surveillance; or
  - b) in suitable containers in suitable stores both of which -
    - i) are so constructed, maintained and used as to prevent the loss or unauthorised removal of allocated materials or waste;
    - ii) are constructed of non-combustible materials;
    - iii) do not contain nor are located close to any corrosive, explosive or flammable material and,
    - iv) are clearly and legibly marked with the word "Radioactive" with the ionising radiation symbol conforming with BS 3510L 1968 or ISO 361 and any other information necessary for the identification of the allocated materials present.
  
- 6 The RPS shall, so far as is reasonably practicable, minimise the amount of radioactive waste arising from the keeping and use of each radionuclide allocated to the department.
  
- 7 The RPS shall, so far as is reasonably practicable, ensure that the means under departmental control by which disposals of radioactive waste are made are maintained and kept in good repair.
  
- 8 If the RPS suspects that an allocated material or any accumulated radioactive waste has been lost or stolen he/she shall immediately inform the RPO.
  
- 9 If the RPS suspects that an allocated radionuclide or accumulated radioactive waste is escaping or has escaped from any container or location in which it is kept or used he/she shall immediately inform the RPO.

a) Storage facilities must be kept locked.

b) The RPS should maintain a list of authorised persons.

This includes sealed sources.

a) This is probably not practicable except in very special cases.

i) Refrigerators must be kept locked for example. Laboratories must be kept locked when unoccupied.

ii) In case of fire, seek advice from the RPO

iii) Seek advice from the RPO

iv) The radionuclides present should be listed. This includes sealed and high-activity sealed sources. In addition this includes, photographs of any high-activity sealed source, its container and any transport packaging and any associated equipment.

This is best achieved by ensuring that each order is accompanied by a justification for the use of the radionuclide concerned which specifies the waste streams to be used and the amounts concerned.

Sinks, drains etc. must be free of obstruction – seek advice from Maintenance. Pipework must be serviceable.

Contact the RPO

This includes sealed and high-activity sealed sources in which case ensure that all reasonably practical measures are taken to recover the source.

Contact the RPO

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- 10 If the RPS suspects that an accumulation or disposal of radioactive waste which does not comply with departmental allocations is occurring or has occurred, he/she shall immediately inform the RPO.
- 11 The RPS shall ensure that up-to-date, clear legible records are kept for each radioactive source, accumulated radioactive waste and disposals showing:
- a) the radionuclide present in the department, the date on which it was received and the activity on that date;
  - b) its location within the department;
  - c) if it has been removed from the department, the date of removal, the activity on that date and the name and address of the person to whom it was transferred;
  - d) the activity present in the department at the end of each calendar month;
  - e) on the day of accumulation or disposal as appropriate legible records of accumulation and of disposal of radioactive waste;
  - f) such other information UCL may require.
- 12 The RPS shall ensure that:
- a) any sealed source is kept and used only for the purposes of academic teaching and research
  - b) only sealed sources permitted by the RPO are kept and/or used in the Department.
  - c) the number of sealed sources of any one activity permitted by the RPO to be kept and/or used in the Department is not exceeded.
- 13 The RPS is to ensure that no sealed source is modified.
- 14 The RPS shall ensure that all equipment, including sources and source containers, used in the keeping and use of sealed sources are maintained in good condition
- 15 There are a number of occurrences that must be reported to the RPO if you suspect or know they have occurred.

## Contact the RPO

Standard UCL forms should be used in each laboratory using radioactive materials.

- a) Use the standard UCL vial history form.
- b) Use the standard UCL vial history form.
- c) Transfer form and monthly return form.
- d) Collate the above records and make monthly returns on the standard form to the CIR via RSS.
- e) Disposal record sheets.
- f) All records are to be collated and a monthly return made to the CIR on the standard form via RSS by the 7th of each month.

- a) If you wish to use a sealed source for any other purpose, consult RPO first
- b) Check with RPO before any sealed source is brought onto UCL premises
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All users of sealed sources must be Informed of this requirement in writing.

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Contact RPO in the event of any of the following:

- the loss or theft of a source
- any damage to a source
- any escape of radioactive material
- a failure to comply any limit set by UCL on the number of sources or their activity that the Department may keep
- any unauthorised use of a source.

- 16 The RPS shall ensure that all full records are kept for all sealed sources

Set up a record (made as soon as possible after receipt of a source) for each individual source, showing the following:

the unique identification number which must remain legible

the radionuclide and its activity on the date it was received

details of any markings on the source, which should include the trefoil and the word 'Radioactive'

the location of the source

if it has been removed from the premises, the date of removal, the radioactivity on that date and the name and address of the person to whom it was transferred

the written information supplied by the manufacturer or where this has not been supplied the markings etc given to the source by the Department

Where additional information is required, this should be added to the spreadsheet.

As the Environment Agency require that any amendment made to the record is clear and traceable you should ensure that all changes in the spreadsheet are clear and retained by, for example adding a new row below that being amended.

You should ensure that all records are available for inspection and kept until told otherwise.

## Responsibilities

The RPS has the following responsibilities:

To execute the above duties with due diligence.

To inform the Head of Department if and when any difficulties arise in the execution of the above duties. Where the matter is not resolved inform the RPO.

To inform the UCL Hazardous Waste Service of waste that is not being removed. In the event that this has no effect, the RPS should inform the RPO and as a measure of last resort, a contractor.

## Duties with regard to the Ionising Radiations Regulations

Duty	Guidance
1 The RPS remains responsible at all times for the discharge of the duties.	The RPS may delegate duties to a competent Deputy, Local Managers or Designated Individuals, e.g. the collection and distribution of film badges, contamination monitoring.
2 The Departmental Radiation Protection Supervisor (RPS) is responsible to the Head of Department for the day-to-day supervision of the use of ionising radiations within the department in compliance with Departmental Local Rules for Radiation Safety.	In cases of non-compliance the RPS should inform his/her Head of Department and the RPO and refuse, on behalf of the Head of Department, to authorise the use, orders etc. for any person or group involved in work with ionising radiations.
3 The RPS shall ensure that: a) Departmental Local Rules for Radiation Safety are complete and current for the department. b) Radiation safety is supervised within the department in accordance with the Departmental Local Rules for Radiation Safety.	
4 The RPS shall, so far as is reasonably practicable, ensure that each radiation worker is supplied with a copy of the Departmental Local Rules for Radiation Safety and any relevant Codes of Practice. The worker should sign a statement acknowledging receipt and understanding of the documents. These statements are to be kept along with a current list of radiation users.	See LR - <i>Departmental Radiation Personnel and Duties</i> .
5 The RPS shall, so far as is reasonably practicable, ensure that: a) correct procedures are adopted at all times by departmental radiation workers using ionising radiations. b) all radiation workers in the department are adequately trained. c) relevant information is disseminated to users throughout the Department.	By compliance with Departmental Local Rules, adequate supervision and training, e.g. attendance at HURS course.
6 The RPS shall: a) conduct an annual audit of all radioactive materials within the Department/Unit, and reconciled with the monthly returns; b) create an inventory of sealed or sealed sources held by the Department/Unit which is to be notified annually to the RPO.	a) To be conducted at the end of September every year.  b) To be conducted at the end of September every year.
7 The RPS shall ensure that any proposals for new work are discussed with and justified by the persons involved, so that the use and control of ionising radiations within the department will comply with the Departmental Local Rules for Radiation Safety.	Check the suitability of the facilities in which the ionising radiation is to be used, whether adequate shielding is available, and the provision and adequacy of PPE.

- 8 The RPS shall ensure that:
- a) suitable personnel monitoring (film badge, TLDs etc.) is supplied where appropriate and correctly used.
  - b) there is a mechanism which ensures that departmental staff return personal dosimeters on time.
  - c) persons regularly issued with a dosimeter are registered with the Approved Dosimetry Service for dose record keeping.
- 9 The RPS shall inform the RPA of any experiment involving the administration of ionising radiations to patients or control subjects in order that approval from the Department of Health, Administration of Radioactive Substances Advisory Committee (ARSAC), may be sought.
- 10 The RPS must authorise any overnight experiment involving the use of ionising radiations.
- 11 The RPS shall ensure that regular monitoring of the work areas in each laboratory is carried out and written records are kept.
- 12 The RPS shall ensure that contingency plans and the means to carry them out are available to deal with spills and other incidents.
- 13 The RPS shall ensure that all accidents/incidents involving ionising radiations are reported to the RPO.
- The RPS must liaise with the RPO, Hazardous Waste Technician, the Departmental Safety Officer and Area Safety Officer as necessary, following an accident, incident, or spill.
- The RPS must implement a revision of working procedures to minimise the possibility of re-occurrence.

A list of current personnel using such dosimeters is to be kept.

see LR – *Approved Dosimetry Service*

The experiment must not proceed until such approval is given.

Contact the Radiation Protection Adviser.

You should ensure such overnight experiments will not compromise the 'Safe to Clean' and emergency access Arrangements.

This requires the use of wipe-tests for 3H and annually calibrated contamination monitors for 32P, 125I etc.

see LR - *Contamination Monitoring, Unsealed Sources*

In the event of a spill contact Facilities Services.

The department is required to be able to safely and adequately contain and clear up spills involving the radionuclides used within the department and involving the quantities of such radionuclides to be found within the department.

see LR - *Contingency Plans*

The RPS should telephone UCL Safety Services immediately to seek advice and assistance as necessary. A full report using the standard UCL Accident/Incident form should be completed as soon as possible.

contact ASA(IR).

see LR - *Spills, Accidental Exposure and Decontamination*.

- 14 The RPS shall ensure, that the “Permit to Work” scheme operates with respect to maintenance staff and contractors who may from time-to-time be required to enter areas where ionising radiations are used, stored or disposed of by the department;
- the “Safe to Clean” scheme operates with respect to cleaning staff who may, from time-to-time be required to enter areas where ionising radiations are used, stored or disposed of by the department;
- access to any Controlled Area is restricted to those authorised. Should it be necessary for others to enter such areas, the RPS must ensure that they do so under a written System of Work.
- 15 The RPS shall estimate the likely dose to members of the public whilst in Radiation Areas.
- 16 The RPS shall ensure, so far as is reasonably practicable:
- a) the use of ionising radiations by female workers known to be pregnant is discussed with UCL Safety Services.
- b) the thyroid area of workers involved in iodinations IS monitored using a suitable contamination monitor before starting work, immediately after finishing the work and 24 hours later. Any readings in excess of background must be reported immediately to UCL Safety Services.
- 17 The RPS shall ensure, so far as is reasonably practicable, that radioactive materials for transport to other departments or Organisations are packaged in accordance with current legislation.

see LR - *Cleaners, Contractors & Maintenance Workers*;  
 LR - *Maintenance in Radiation Laboratories*;  
 LR - *Modifying Plumbing in Radiation Areas*.

see LR - *Cleaners, Contractors & Maintenance Workers*;  
 and LR - *Cleaning Radiation Laboratories*.

see LR - *Cleaners, Contractors & Maintenance Workers*;  
 and LR - *Radiation Areas*.

see LR - *Personnel: Visitors and Members of the Public*  
 and  
 LR - *Modifying Plumbing in Radiation Areas*.

see LR - *Pregnant Workers*  
 contact ASA(IR)  
 see LR - *125I Thyroid Monitoring*

seek advice from UCL Safety Services /RPA/the RPC

## Responsibilities

The RPS has the following responsibilities:

To execute the above duties with due diligence.

To inform the Head of Department if and when any difficulties arise in the execution of the above duties. Where the matter is not resolved inform the CIR.

To keep the RPO informed of all plans for either the construction of new facilities in which radioactive materials will be used or the refurbishment of existing facilities. This is in order that UCL may fulfil the requirement to ensure so far as is reasonably practicable that all relevant parts of the premises are so constructed, maintained and used in such a manner that:

- a) they are suitable for purpose;
- b) they do not readily become contaminated; and
- c) any contamination which does occur can be easily removed.

To review the use of designated areas and de-designate those areas which are significantly underused, and to provide certificates of decontamination to the RPO for facilities which are de-designated.

To inform the RPO of all departmental/unit personnel who temporarily, whatever the duration, work with ionising radiations offsite or in another organisation.

Safety Services Reference(s):

LR 5	
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