

Section 5. Ordering radioisotopes, X-ray generators and instruments containing radioactive material

The University is legally required to restrict its total holding of radioactive materials to a stated limit and maintain a *complete* record of receipts and disposals of all radioactive materials.

In order to comply with the legal requirements, the following procedures have been devised.

These procedures must also be followed if gifts or loans of materials or products are offered to groups.

This section comprises 5 parts

- 5.1 Open Sources
- 5.2 Closed Sources
- 5.3 Instruments containing Radioactive Sources
- 5.4 Other Radioactive Materials
- 5.5 X Ray Machines and Generators

5.1 Open sources

Radiation scheme holders can only order or receive gifts of isotopes for a scheme of work that has been approved by the DIRPS and UIRPO. Only the scheme holder or a worker nominated on the scheme is permitted to order isotopes.

The scheme holder or nominee must complete a multi-part radio isotope record form, in addition to the normal department order request. The form is obtainable from the Life Sciences Finance Office.

(Form 6)

The forms must be returned to the Department Finance Office who will ensure that a valid scheme number has been quoted; the isotope, compound and activity are valid for the scheme and that the form has been signed by the authorised person.

The Department Finance Officer will ask the Technical Services Manager to approve the purchase. The Technical Services Manager will check the existing stock of isotopes (via DIRPS or UNIPRO) to ensure that the purchase of new isotopes does not exceed the permit or Scheme of Work limits.

Once approval has been confirmed the Department Finance Office will then allocate an isotope reference number.

When the isotope is received the delivery details should be checked against the order details. Any discrepancies must be brought to the attention of the DIRPS and/or the UIRPO who will then make a decision regarding the fate of the delivery. Small discrepancies due to the supplier's allowance for isotope decay should be recorded on the radioisotope record form

When all sections of the multipart isotope record form are complete the white section will be sent to the Workplace Health, Safety and Wellbeing Department (WHSW) by the Department Finance Office.

WHSW will then enter the isotope details on the central record.

The isotope user must ensure that on receipt of the isotope a record card (see section 7) is filled in.

Any gifts received by a department and found to contain radioactive material or to be radioactive **MUST** be returned to the donor unless prior approval has been given by the UIRPO. The UIRPO's decision is final in such matters.

The DIRPS must ensure that an audit of their Department's isotope stock is carried out at least once a year and report the findings to the WHSW.

In the event of a research group closing down an audit must be carried out of the isotopes held by that group before they depart and arrangements made to dispose of any redundant isotopes.

5.2 Closed sources (Sealed sources)

A radioactive source can only be considered to be "Closed" if it is manufactured and complies with BS 5288:1976, *Sealed Radioactive Sources*.

Departments should be aware that Closed Sources made to European or American standards will not necessarily comply with the British Standard.

Radiation workers can only order Closed Sources for a scheme of work that has been approved by the UIRPO. The worker concerned must complete an official order form for the substances required and forward it to the DIRPS for checking and recording.

The Department must receive the written approval of the UIRPO before placing the order for a closed source with a supplier or receiving it as a gift or on loan.

The UIRPO will require the Department acquiring a Closed Source to provide evidence that funds are available for the safe disposal of the source at the end of its useful life. If this is not provided, permission will not be granted for the purchase of the source.

All requests must be countersigned by their supervisors or Head of Department.

5.3 Instruments containing radioactive material

Many analytical instruments such as detectors for gas chromatographs (GCs) and scintillation counters contain radioactive material and therefore the regulations also apply to such instruments.

Before ordering, receiving gifts or loaning such instruments the approval of the UIRPO must be given. Similarly, the UIRPO must be informed of the location of all such instruments and also informed when the instruments are moved from one location to another.

Details of the radioactive material, activity, half-life, type and disposal arrangements when the instrument has finally to be disposed of, will be required before approval can be given.

5.4 Other Radioactive Material

The UIRPO must be consulted before any radioactive material or substance, which does not fall under any of the above headings, is purchased or acquired.

Examples of such materials are Thorium and Uranium Salts, Rare Earths, Depleted Uranium and geological samples.

5.5 X-Ray Machines and Generators

X-Ray machines and generators may only be used for practices for which prior authorisation has been given by the HSE.

The RPA and UIRPO must be consulted regarding any proposed purchase of X-Ray machines or generators before any order is placed, or acquisition by way of a gift.

The RPA and UIRPO must also be consulted regarding the location of the machine, shielding and interlock arrangements *before* it becomes operational.

All newly installed X-Ray sets must be subject to a critical examination by the installer/supplier to be performed in conjunction with the RPA. A Critical Examination certificate should be completed by the installer/erector, stating that the radiological conditions were measured and met.

Any proposed re-location of existing machines must be discussed with the UIRPO.