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Radiation Safety Unit

Risk Assessment of a procedure involving an Unsealed Source of Ionising Radiation

Regulation 7 of the Ionising Radiations Regulations, 1999 (IRR99) states that:

(1) "Before a radiation employer commences a new work activity involving work with ionising radiation in respect of which no Risk Assessment has been made by him, he shall make a suitable and sufficient assessment of the risk to any employee and other person for the purpose of identifying the measures he needs to take to restrict the exposure of that employee or other person to ionising radiation".

(2) "A radiation employer shall not carry out work with ionising radiation unless he has made an assessment sufficient to demonstrate that:

(a) all hazards with the potential to cause a radiation accident have been identified, and

(b) the nature and magnitude of the risks to employees and other persons arising from those hazards have been evaluated".

(3) "Where the assessment made shows that a radiation risk to employees or other persons exists from an identifiable radiation accident, the radiation employer shall take all reasonably practicable steps to:

(a) prevent such an accident;

(b) limit the consequences of any such accident which does occur; and

(c) provide employees with the information, instruction and training and with the equipment necessary, to restrict their exposure to ionising radiation".

Under IRR99 therefore, all procedures involving sources of ionising radiation are required to be subject to an explicit, and formal Risk Assessment. This must be undertaken before work commences.

School	Psychological Sciences
Building	Coupland I (Rutherford Annexe)
Room Number	H 1.38
Description of Procedure (Brief - e.g. iodination of)	Entering and normal working within office space where a localised area of fixed radioactive contamination has been recorded

Declaration by all individuals to whom this Risk Assessment is relevant

I confirm that I have read this Risk Assessment and understand the implications described.

Name

Signature

Date

Radionuclide:particulate decay products of ^{238}U .

Form of the radioactive material: particulate.

Activity detected:38-40 c.p.s. (low-energy beta-radiation) at point of floor contamination (2 x 2cm); air count within room space = 29 c.p.s.

Frequency of the procedure: regular (daily) entry.

Significant hazards associated with the procedure (*e.g. external contamination leading to radiation dose; ingestion hazard*).

There is no significant radiation hazard within the normal working environment of the room.

Groups of people (*e.g. operators, cleaners, public*) who are at risk from the significant hazards

None.

Existing control measures (e.g. access control, β -boxes, fume cupboards, protective clothing, shielding, contamination control):

Access control to room

Risks which are not adequately controlled and the action needed. (e.g. supervised area should be created and access controlled).

n/a

"Reasonably foreseeable" accident scenarios and control measures that are in place to prevent each occurrence or limit their consequences? (e.g. spill of radioactive liquid, use of trays with disposable liners, 'spill pack' availability). **N.B. If spillage of radioactive material is identified as "reasonably foreseeable", the consequential likely radiation dose to the operator MUST be stated.**

Control measures: a 2mm thickness of lead (30 cm²) has been affixed to the affected area of flooring, after removal of the overlying carpet and linoleum. This has reduced the surface radiation count rate to a value comparable to that on the remainder of the floor area in the room.

Contingency plans for "reasonably foreseeable" accident (as required under Regulation 12 of IRR99). (e.g. contact RPS, prevent access to or egress from lab spill area or lab, call RPA).

n/a

Summary record of the significant findings of the assessment (e.g. extent and possible consequences of risk):

Room H1.38. A 4cm² area of carpet in room H1.38 was found to emit surface radiation at a count rate of 38-40 counts per second (cps). Both the surrounding area and the background count rate within the room gave a reading of 29 cps, a value identical to that in similarly-constructed areas throughout the building where no local elevations in floor counts were evident. As the radioactive count rate (counts per second) at the surface of the carpet above the spot is less than 2X the background level within the room space, this would not materially contribute to the background level of radiation within the room.

Arrangements for Monitoring and Review:

(a) Accident Investigations

(b) Inspections

To be undertaken on an annual basis

(c) Responsibility for reviewing this Assessment

Dr Stephen Bidey

Date for next review of this Assessment: October 2009

Assessor(s) Dr Steve Bidey	
Signature(s)	

Date 22nd October 2008