RP CoP002 – Protocol for the Decommissioning of Laboratories used for Unsealed Radioactive work

1. Introduction

Occasionally laboratories that have been used for work with unsealed radioactive material will be reassigned to different, non-radioactive, work. It is important that before doing so, steps are taken to confirm that there is no remaining radioactive material, radioactive contamination or articles that could be construed as being radioactive or containing radioactivity left in the laboratory. This Guidance Note outlines a protocol which, if followed, will adequately demonstrate that these steps have been undertaken.

Note that this protocol is intended for laboratories in which radioactive work will definitely cease. If it is likely that a lab may be reused for radioactive work in the short to medium term, it might be worth maintaining it as a designated radiation room/area. In this case loose, accessible contamination should be removed, but the room/area designation notice must be left on display, and the activity data table on the notice annotated accordingly.

A checklist is attached as an addendum to this guidance note to help work through the protocol for any particular room/area.

2. Procedure

1. All radioactive material and waste must be removed from the department via an appropriate route.

2. The Usage and Disposal Records must be completed to show that all radioactive material and waste has been removed, when and by what disposal route.

3. All containers used for the keeping of radioactive material or waste must be removed from the department or checked to ensure that they are clean. All markings relating to their radioactive contents must be removed or made illegible.

4. Comprehensive contamination monitoring must be carried out using a suitable contamination monitor and the result recorded. Information on radioactive contamination monitoring can be found in Radiation Protection Code of Practice RP CoP003.

5. All loose surface contamination must be removed using conventional laboratory decontamination methods. If, after decontamination, the count rate on the contamination meter is ≥ twice the background count rate, then wipe tests should be performed. If the count rate on the wipes is above background, then cycles of decontamination followed by wipes should be

carried out until no significant reading can be detected on the wipes; this shows that no readily removable contamination is left. Where direct monitoring is not appropriate, e.g. tritium contamination, all monitoring should be carried out by wipe tests.

6. Consideration needs to be given to contamination inside drainage pipe work at the points of disposal. Sinks which could have been used for disposal of radioactivity should have the sink trap dismantled and checked by monitoring and, if necessary, wipes. If this shows contamination fixed onto the pipes, there might be a need to look for contamination further downstream; seek advice from the Radiation Protection Unit.

7. It will be necessary to check for contamination in the extract from any fume cupboards. This should be done by monitoring as close as possible to the point where the ductwork leaves the top of the fume cupboard. If there is a filter present, the surface behind (i.e. downstream of) the filter should be checked. If there is contamination present, the RP Unit should be contacted.

8. If after decontamination there remains any fixed contamination, the Radiation Protection Unit should be contacted for advice.

9. After removal of radioactive materials and isotopes and any required decontamination all radiation warning notices should be removed from doors, cupboards, fridges, sinks etc. Radiation warning signs should be made unrecognisable before disposing with normal refuse.

10. The Radiation Protection Unit should then be contacted. They will undertake a final survey to ensure that the lab can be confirmed as decommissioned, and issue a Decommissioning Survey Certificate.

11. If work in the laboratory/area is ceasing **and** the whole premises is to be vacated (not just the one room/area), then it may be necessary to inform the enforcement authorities. This will be done on behalf of the department by the Radiation Protection Unit.

3. Records

The following records applicable to the area must be kept for a period of five years after the date of the cessation of radioactive work in the room/area:

- usage and disposal records;
- summary disposal records;
- routine monitoring records;
- determination(s) of the relative fractions of activity disposed by each route;
- decommissioning monitoring records;
- decommissioning check list; and
- Decommissioning Survey Certificate.

4. Decommissioning of Radiation Laboratories Checklist

This checklist can be downloaded from the forms area of the RPU website.

Identification of Laboratory:		
Department:		
Name of Person completing checklist:	Signature:	Date:

All radioactive material and waste removed?	☐
Usage and Disposal Records completed to show that all radioactive material and waste has been removed, when and by what disposal route?	☐
All empty containers removed or markings removed or made illegible?	☐
Contamination monitoring carried out and result recorded?	☐
All loose surface contamination removed? - If any fixed contamination remains refer to the Radiation Protection Unit	☐
Sinks traps checked? - If contamination fixed on pipes refer to the Radiation Protection Unit	☐
Extract from fume cupboards checked? - If contamination present refer to the Radiation Protection Unit	☐
ALL radiation warning notices removed from doors, cupboards, fridges, sinks etc.?	☐
Radiation Protection Unit contacted for final survey?	☐
Decommissioning Survey Certificate received?	☐
All records up-to-date, available and filed? • Usage & Disposal records ☐ • Summary disposal records ☐ • Routine monitoring records ☐ • Determination(s) of the relative fractions of activity disposed to each ☐route • Decommissioning monitoring records ☐ • This check list; ☐ and • Decommissioning Survey Certificate ☐	☐

Document version

Version number	Summary of change	Date and by whom
V1.0	New version	July 2004 Colin Farmery
V1.1	Minor updates	December 2020 LW
V1.2	New template	September 2024 JC

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