**Decommissioning of Radioisotope Areas and Laboratories**

# Prior to releasing a space previously permitted for radioactive use, the permit holder must ensure that the applicable spaces are appropriately decommissioned. Release of spaces may occur in conjunction with the termination of a permit, deletion of a location from a permit, pending renovations, etc. Decommissioning includes, but is not limited, to all of the following actions, as applicable to the particular Permit Holder’s operations:

1. Appropriate disposal of nuclear substances or radiation devices or their movement to an approved site;
2. Removal of all radioactive warning signs and labels;
3. The monitoring of all areas and decontamination actions to meet the prescribed limit(s) for decommissioning [see below];
4. Completion of a Decommissioning Report by the RSO;
5. The update of all records to reflect the change in area/room and Permit Holder status by the RSO;
6. The maintenance of records associated with NSRD use, including decommissioning, for a period ending three years after the expiry date of the last Permit associated to the Permit Holder.

# CNSC Contamination Criteria for Decommissioning

|  |  |
| --- | --- |
| Classification | Non-fixed Contamination Limit (averaged over an area not to exceed 100 cm2) |
| Class A | 0.3 Bq per square centimeter |
| Class B | 3.0 Bq per square centimeter |
| Class C | 30 Bq per square centimeter |

## Classification of radionuclides is found in the Radioactive Contamination Monitoring Policy.

# Nuclear Substance and Radiation Device Room Decommissioning Form

## The Permit Holder shall ensure that prior to (further) decommissioning action in any area, room or enclosure where the permitted activity has been conducted that non-fixed contamination (averaged over an area not exceeding 100 cm2) does not exceed:

0.3 Bq/cm2 for all class A radionuclides OR

3 Bq/cm2 for all class B radionuclides OR

30 Bq/cm2 for all class C radionuclides;

Any area, room or enclosure containing fixed contamination must be reported to the RSO.

Permit Holder:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Permit number:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Building and Room Number:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Performed by:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Contact info if not RSO:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Removal of postings and signage:

*Completed*

1. Permit Y N
2. Labels on waste containers (if not for immediate re-use, consult with RSO) Y N
3. CNSC safety posters Y N
4. CNSC license if applicable Y N
5. Entry door warning signage for radiation Y N
6. Removal of other labels :
7. Labels on freezers, refrigerators and storage cabinets Y N
8. Auxiliary and storage room signage Y N
9. Rad-tape around workstations Y N
10. Rad warning labels on equipment such as pipettors, digestors, combustors, centrifuges, etc., after successful cleaning

Y N

C. Inventory Control:

1. Inventory record completed for on each stock and/or major container Y N

D. Final waste readied for take away and properly taken:

1. Stock vials, major and minor disposable containers to rad-waste (ensure fridges and cabinets are cleaned out) Y N

2. Glassware to be kept has been decontaminated and set aside for non-rad use Y N

3. Radioactive sharps into sharps box, then into solids waste Y N

1. All rad waste properly taken away as per U of G rad waste processing procedure? Y N

E. Dosimetry:

1. Informed the EHS dosimetry badge co-ordinator of change and arranged return of badges if applicable Y N

F. Radiation Measurement system(s)

1. Contamination meter to be transferred to be properly disposed or transferred to someone else - including any check source. Must show ‘wipe-test clean’ itself. Provide information below.

2. If last user on a major counting system, e.g., LSC or SC, arrangements have been made for disposal, transfer, etc., including the associated quench/test standards. Provide explanation here:

G. Contamination monitoring result:

1. Diagram of locales within the room to be wipe tested attached Y N
2. Contamination monitoring results attached Y N

# DECOMMISSIONING CONTAMINATION MONITORING RECORD

1. **Wipe Test by using Liquid Scintillation Counter (Indirect monitoring)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Counter Type** | **Make** | **Model** | **Isotope(s)** | **Detector Efficiency (%)** | **Collection Efficiency (%)** | **cpm** | **Bq/cm2** |
|  |  |  |  |  |  |  |  |

1. **Use of Survey Meter (Direct Monitoring)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Detector #** | **Make** | **Model** | **Isotope(s)** | **Detector Efficiency (%)** | **cpm** | **Bq/cm2** |
|  |  |  |  |  |  |  |

**Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Background­­­­­­­­­­­­­­ (cpm):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |
| --- | --- | --- | --- |
| **Location of area sampled as per diagram** | **Gross count in cpm** | **Net count in cpm** | **Contamination level in Bq/cm2** |
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
| 5 |  |  |  |
| 6 |  |  |  |
| 7 |  |  |  |
| 8 |  |  |  |
| 9 |  |  |  |
| 10 |  |  |  |