**Work Scope:**

All activities that involve the delivery of rad materials to CAES, transfer of rad materials between rad labs, or the removal of rad materials from CAES.

**Applicability:**

Technical Safety Office personnel or their designees.

**Radiological Conditions:**

Vary as a function of the materials being handled.

**Requirements:**

|  |  |  |
| --- | --- | --- |
| Dosimetry Type: | [x]  Whole body beta/gamma dosimeter | [ ]  Whole body neutron dosimeter |
|  | Multi-pack type: |       |
|  | [ ]  Electronic dosimeter (ED) | [x]  Extremity dosimetry (optional at discretion of performer |
|  | [x]  Continuous | [ ]  End of work | [ ]  At job start | [ ]  Periodic |
| * Notifications: TSO or designee shall notify the Lab Lead or CAES Safety Officer prior to handling and movement of rad material.
* Inventory: For transfer between labs, make a chain-of-custody entry in the CAES rad inventory database/log prior to movement of rad materials in CAES.
* Personnel Safety: TSO or designee ensure all personnel working in area are notified of planned action and that only essential personnel are in the area when rad materials are being handled.
* Controls: In conjunction with lab lead and CSO decide what signage and other controls are needed during movement of materials.
* Personal Protection Equipment: Always wear Nitrile gloves, lab coat, and safety glasses when handling rad materials.
* Verification: TSO or designee verifies the material activity levels are consistent with documented/expected levels.
* Inventory: Update CAES radiological inventory database at completion of the activity.
* Notifications: Notify lab lead or CSO at completion of the activity.
 |

**Contamination Control:**

* Always check for contamination on the outside of containers upon receipt and before movement or removal of rad materials.
* Always change-out and dispose of Nitrile gloves following the handling of potentially contaminated sources.

**Survey Requirements:**

* Follow ISU personnel survey requirements for entering and leaving all posted areas.
* Use established ISU procedures for conducting contamination surveys.
* Survey tools used to handle materials after use.
* Perform detailed surveys of equipment following the removal of rad materials.

Detailed surveys will consist of a combination of smears and direct scans as appropriate to verify potentially affected areas are not contaminated. If unexpected contamination is found via smear/swipe, the smear/swipe will be bagged and labeled with the date time and swipe description and save for further analysis.

**Evaluation Points:**

* Instruments must be surveyed for contamination before and after the handling of rad materials.
* Frisk when exiting the areas where rad materials are handled.

**Limiting Conditions That Void the RSP:**

* Materials delivered to CAES:  If the measured activity levels of materials are not consistent with the types and levels specified in the shipping manifest and approved RPR13, if the sample containers are at all compromised, or the number of, or labeling of samples no not match the information provided by the researcher/shipper, the materials should be immediately secured and the RSO notified.
* Materials identified for transfer or removal: If the observed activity levels of materials are not consistent with the types and levels specified in the CAES Inventory database, the materials should be immediately secured and the RSO notified.
* Smearable contamination > 70 dpm/100cm2  beta/gamma and/or 7 dpm/100cm2 alpha is measured after initial attempts to remove contamination from contamination area or equipment.
* Radiation levels > 70 mR/hr at 30 cm.
* Personnel frisk identifies contamination when exiting the work area.

**If any of these conditions are met, Stop Work, place materials in safe condition, cease use of this RWP as written and notify the Radiation Safety Officer, Lab Lead and CSO.**

**Best Practices:**

* Follow good ALARA Practices when handling radiological sources:
* Minimize time in which radioactive sources are exposed.
* Use tongs and similar long-handled tools to handle materials and increase distance to source.
* Set up portable shielding as appropriate to minimize field during materials handling.
* Perform surveys of work areas.

