Authorized User

AUs must have adequate and appropriate training to provide reasonable assurance that they will use licensed material safely, including maintaining security of, and access to, licensed material, and respond appropriately to events or accidents involving licensed material to prevent the spread of contamination.

Authorized User

- Authorized User is designated as active supervisor.
- RSO may give limitations on quantity of radioactive material handled.
- Authorized Users are selected once their applications have been reviewed and approved by the RSO.

As Low As Reasonably Achievable (ALARA)

- TIME
- DISTANCE
- SHIELDING

Personnel Protective Clothing

- Laboratory Coat
- Closed toe shoes, no high heels.
- Rubber Gloves

Safety

- Fire exits, fire alarms and fire extinguishers.
- Telephone location with emergency contact numbers.
- Slips, trips and falls.
- Proper ergonomics, strains and sprains.
- Head hazards.

Pre-Job Preparations

- PPE.
- Personal Dosimeters.
- Survey Meters (calibrated and source checked).
- Review procedures and previous surveys.
- Prepare pre-drawn survey maps (RPR 11).
- Prepare work area:
  - Properly marked trash receptacle (material to pad sharp edges)
  - Disposable surface/Deconable surface
  - Wipes
  - Extra rubber gloves
  - Survey material

In Process Surveys

- Radiation Surveys:
  - Prior to handling material
  - General Area (GA)
    - Work Area, Work Area with radioactive item.
  - Trash receptacle
  - Bagged radioactive waste
  - RAM storage area after source is secured from use.

In Process Surveys

- Contamination Surveys:
  - Newly exposed surfaces
  - Spot scans (hands, lab coat, work area)
  - Bagged radioactive waste
  - Whole body frisk
  - Tools and equipment used
  - Source container

RPR 11A &11B

RADLAB CONTAMINATION SURVEY - RPR 11

□	Dose rate (µrem/h)	o	Smears (dpm/100cm^2)	o	Smears (dpm/100cm^2)
B					

Instrument used: Serial: Calibration Due:
Instrument used: Serial: Calibration Due:
Instrument used: Model: Serial: MDA: dpm

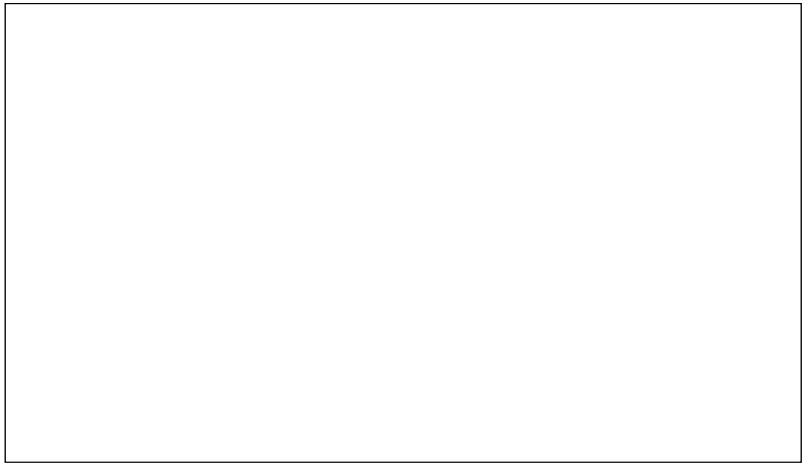
Date: Performed by:

Bldg/Rm: Program: #
Nuclides used:
RCL: dpm/100cm^2

Comments:

Reviewed _____

RADLAB CONTAMINATION SURVEY - RPR 11B



#	Direct Survey (cpm/frisk)	#	Direct Survey (cpm/frisk)	Δ	Neutron Exposure Rate (mrem/hr)
BKG					

Instrument used: Serial: Calibration Due:
Instrument used: Serial: Calibration Due:

Date: **Performed by:**
Bldg/Rm: **Program:**

Radionuclides used:
Action Level: cpm Are survey results > ? Y* / N

Comments:

RSO/ARSO Review _____

Survey Record Requirements

Each survey record should include the following:

- A diagram of the area surveyed
- A list of items and equipment surveyed
- Specific locations on the survey diagram where wipe test was taken
- Ambient radiation levels with appropriate units
- Contamination levels with appropriate units
- Make and model number of instruments used
- Background levels
- Name of the person making the evaluation and recording the results and date.

Contamination Control

- Contamination is particles of RAM where they should not be.
- Control contamination at the source.
- Cover contaminated items not being worked.
- Change gloves and disposable surfaces often.
- Wipe and fold technique using absorbents.
- Wipe from suspected low to high activity.
- Clean hand dirty hand technique.
- Avoid busy hands.

Post-job

- Prior to leaving be sure that:
  - RAM is properly stored
  - Lab and work area is contamination free
  - You perform a whole body frisk including the lab coat.
- Log surveys on RPR 11 maps

Spills

- Applicants and RSO will determine the qualifications of a minor spill versus a major spill.
- The main goal of a spill response is to protect personnel and prevent further spread of contamination. High activity spills (≈ half of an ALI or greater) pose a risk of going airborne the longer the spill sits without cleanup.

Remember SWIM

- Secure/Stop the source of the spill.
- Warn others in the area.
- Isolate the affected area.
- Minimize the spread of contamination

Spill Kits

- Spill kits should be easy to identify and access.
- Spill kit should include the following:
  - Rubber gloves
  - Waste bags
  - Boundary rope and signs
  - Absorbents
  - Tape
  - Swipes

Minor Spills

- Secure the source of the spill and Prevent spread of spill by covering with absorbents.
- Notify personnel in the effected area.
- Isolate the immediate spill area.
- Clean up the spill, wearing disposable gloves. Control generated waste. Do not reuse contaminated lab coats.
- Use the wipe and fold method, wiping from lowest to highest levels of expected contamination.
- Perform surveys of spill area and whole body frisks of involved personnel.
- Report spill to RSO promptly. Cooperate with the RSO and TSO staff.
- Isolate the area until RSO approval.

Major Spill

- Stop/secure the spill
- Warn personnel in the spill area
- Isolate the spill area. Close the door and guard the area at a safe distance. Post signs to inform personnel of radioactive spill.
- Minimize the spread of contamination and radiation exposure. Perform whole body frisks on all personnel that might have been contaminated. Throw contaminated items away as RAM waste.
- Notify the RSO immediately.
- Cooperate with RSO and RSO's staff and follow all instructions.
- Do not return to the room without RSO approval.

References

- http://www.physics.isu.edu/health-physics/tso/rad.html
- http://www.nrc.gov/reading-rm/doc-collections/
- NUREG 1556 Vol. 11
- 10 CFR 20