



# Guidelines for Moving Radioactive Materials (RAM)

## VEHS Fact Sheet

Vanderbilt Environmental Health and Safety

Telephone: 322-2057 Fax: 343-4957 After hours pager: 835-4965

[www.safety.vanderbilt.edu](http://www.safety.vanderbilt.edu)

### I. Posting New RAM Laboratory:

- A. Submit Form 7A "Proposal for a Radioactive Materials Room" to VEHS by campus mail (U-0211 MCN, 2665) or fax (343-4951). This form is available from the VEHS web site (<http://www.safety.vanderbilt.edu/>).
- B. The new laboratory must be posted by VEHS before any RAM can be moved into the room.
- C. The new lab will be posted by VEHS within 2 days after receipt of form.

### II. Moving Radioactive Equipment:

- A. Equipment transported by Contract Movers:
  1. Moving company personnel must not move any equipment with "Caution: Radioactive Material" labels.
  2. All large lab equipment labeled with "Caution: Radioactive Material" must have a survey performed by VEHS-Radiation Safety Section staff.
  3. Once the equipment is determined to be free of RAM contamination, VEHS will remove labels and the equipment may then be moved. Large lab equipment includes: refrigerators, freezers, incubators, fume hoods, large (freestanding) centrifuges, sinks, shakers, etc.
- B. Equipment transported by Lab Personnel:
  1. Any small lab equipment with "Caution: Radioactive Material" labels and/or contaminated with RAM must be transported by trained radiation lab workers thru corridors, sidewalks and tunnels on Vanderbilt premises. RAM contamination cannot be on any external surface. Small bench-top lab equipment includes: beakers, forceps, hot plates, pipettors, small centrifuges, small ovens, steel/lead/Lucite shields, test tubes, water baths, etc.
  2. Lab personnel must document a wipe and meter survey of external surfaces of equipment with RAM labels. Survey results should be available for VEHS to review.
  3. A service representative must remove all internal RAM sources from lab equipment such as, liquid scintillation counters or gas chromatographs before it is to be transported or disposed of. A documented wipe and meter survey must also be performed on the exterior surfaces of this equipment. Survey results should be available for VEHS to review.
  4. RAM calibration sources from liquid scintillation counters and gamma counters must be transported according to section III below.

### III. Moving Radioactive Materials (RAM):

- A. Do not move RAM in commercial, personal or Vanderbilt vehicles on public roadways.
- B. If RAM must be moved by vehicle on or off of Vanderbilt premises, contact VEHS Radiation Safety staff.
- C. RAM must be packaged and transported by trained radiation workers in unbreakable secondary containers with enough absorbent material that will absorb twice the amount of liquid. RAM pigs may be transported in coolers with wet/dry ice to the newly posted laboratory.

- D. All RAM may be transported by sturdy cart through Vanderbilt corridors/tunnels or on Vanderbilt sidewalks as long as they are packaged as mentioned previously.
- E. Radioactive materials that are moved through Vanderbilt corridors/tunnels must have an exposure rate of  $< 2$  mR/hr at 1 foot measured by a GM meter. If RAM produces an exposure rate of  $> 2$  mR/hr at 1 foot measured by a GM meter, contact VEHS Radiation Safety staff.
- F. A wipe survey must be performed on the external surfaces of the secondary container. Wipe results from the outside of the secondary container should be  $< 600$  dpm/300 cm<sup>2</sup>. If results are  $> 600$  dpm/300cm<sup>2</sup>, clean outside of container and wipe again until clean.
- G. **Do not leave RAM unattended or unlocked during move.**

#### IV. **Close Out of Old RAM Laboratory:**

- A. Notify the VEHS Lab Close Out Coordinator to schedule a close out survey 30 days prior to vacating the lab. Download and follow the Laboratory Close Out Guidelines that are available from the VEHS website (<http://www.safety.vanderbilt.edu/>).
- B. Before the close out survey can be conducted the procedures described in the VEHS Lab Close Out Guidelines must be completed, including equipment check surveys, the removal of all radioactive waste, radiation waste containers and RAM. If any contamination or RAM materials are found, the former occupants of the lab are responsible for cleanup.
- C. All radioactive material laboratories must have a close out survey performed before any remodeling or construction can take place in the rooms.
- D. After the lab has been closed out the “Caution: Radioactive Materials” labels and room signs will be removed by VEHS Radiation Safety Section staff.
- E. **Contractors, Plant Operations/Services Workers and Movers must not do any work in the laboratory until the Close Out Survey is complete.**