A. Purpose

This policy establishes safe work practices for the use of radioactive materials (RAM). They are designed to reduce the risk of a significant contamination event or the accidental inhalation or ingestion of RAM and reduce radiation exposure. Adherence to these practices will help to achieve and maintain radiation exposures As Low As Reasonably Achievable (ALARA).

B. Applicability/scope

This policy applies to all areas, laboratories and facilities where radioactive materials (RAM) are used or stored that are under the cognizance of Columbia University Radiation Safety Program. This includes, but is not limited to:

- Columbia University Medical Center
- New York Presbyterian Hospital
- Allen Hospital
- Morningside campus
- Manhattanville campus
- Lamont Doherty Earth Observatory
- Nevis Lab
- Barnard College
- New York State Psychiatric Institute

C. Definitions

EH&S – Environmental Health and Safety

RAM – Radioactive materials.

D. Procedures

- Prior to performing an operation with quantities of radioactive material (RAM) that may produce significant external or internal exposure, the user must consider using precautionary measures such as remote handling devices, hoods, shielding, interlocks, etc. A Radiation Safety Officer must be consulted before beginning any new use of radioactive material.
- Eating, drinking, smoking, application of cosmetics, manipulation of contact lenses or storage or preparation of food in any location where radioactive materials are used or stored is prohibited.
- Food, drink or personal effects shall not be stored with radioactive materials.
- Pipetting of radioactive materials by mouth is prohibited.
• Eye protection, lab coats and disposable gloves, as well as long pants or long skirts or dresses and closed-toe shoes, must be worn during operations involving the handling of unsealed sources of radioactive material. The lab coat and gloves should be removed before leaving the laboratory. Care must be taken such that other items (i.e., pens, pencils, notebooks, doorknobs, telephones, etc.) are not handled with gloves used during work with radioactive materials.

• Work that may result in contamination of work surfaces should be performed in such a manner so as to minimize the generation of any low-level radioactive waste and still provide for ease of decontamination. Trays made of impervious material (i.e., stainless steel, porcelain-coated, etc.) as well as plastic-backed absorbent paper provide excellent work arrangements to help prevent the spread of contamination.

• Work surfaces and personnel shall be monitored for contamination before, during and after working with radioactive materials.

• Where there has been a spill of radioactive material that may have produced personal contamination or contamination of clothing, both the person and the clothing must be monitored and decontaminated as soon as possible.

• When contamination above 200 DPM/100 cm² is discovered, decontamination must be initiated immediately by the user.

• After working with unsealed sources of radioactive material, hands should be monitored and washed before leaving the laboratory, eating or smoking.

• Objects and equipment that may have been contaminated with radioactive material must be surveyed and demonstrated to be free of contamination prior to their removal from the laboratory, or transferred to other laboratories, repair shops, surplus, etc. If found to be contaminated, such items must be decontaminated as soon as practical.

• All equipment and radioactive material use areas to be repaired, maintained, or visited by a vendor, supplier, or other non-Columbia personnel shall be surveyed and decontaminated as needed to below 200 DPM/100 cm² prior to allowing the non-Columbia personnel access. This survey shall be documented by the laboratory and kept in the lab’s yellow Radiation Safety binder for inspection by Radiation Safety Program personnel or inspecting agencies.

• Radioactive waste may be disposed of only in the manner designated by Radiation Safety Program personnel and records maintained as instructed.

• Radioactive materials should be stored in covered containers plainly identified and labeled with the name of the compound, radionuclide, date, activity and radiation level (if applicable).

• When transporting radioactive materials between laboratories or buildings, use strong and tight shielded containers.

• Transport of radioactive materials in your personal vehicle or on public transportation is prohibited.

E. Responsibilities
Radiation Safety personnel will provide guidance and assistance to users of radioactive materials to assist in designing appropriate procedures, work stations and handling procedures.

F. Medical Surveillance

N/A

G. Recordkeeping

N/A

H. Appendices

N/A

I. Forms

N/A

J. References

Columbia University Radiation Safety Manual:  

K. Acknowledgements (optional)

N/A