A. Purpose

This policy establishes safe work practices for the use of radiation-producing equipment (RPE). They are designed to reduce the risk of a significant exposure event 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 RPE is are used 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

- ALARA – as low as reasonably achievable
- RPE – radiation-producing equipment
- Radiation Equipment – any device that uses an x-ray tube or an electron beam to generate ionizing radiation. This includes but is not limited to radiographs, fluoroscopes, bone densitometers, x-ray crystallography units, x-ray irradiators, and electron beam microscopes.
- Self-shielded – units such as cabinet x-ray units that where the beam is contained in a shielded box. These units typically have an interlock to that shuts the beam off if the door is opened.

D. Procedures

1. Safety begins with training. All new workers must take initial radiation safety training. Initial safety training for RPE can be found on Rascal as course TC3400. Refresher training is required annually. Workers should take TC3400 to satisfy this requirement.
2. The owner/operator of the unit is responsible for training workers on the safe operation of each individual unit.
3. If the unit has interlocks make sure that the interlocks are engaged prior to operation of the unit. **Never attempt to defeat or bypass an interlock.**
4. If the unit is self-shielded **do not** modify the shielding. If the shielding has to be modified, contact the Radiation Safety Officer **before** any alterations are made.

5. For units that are not self-shielded (i.e., fluoroscopy units), only those who need to be in the room should be in the room when the unit is on and the beam has been activated.

6. For fluoroscope users ensure a lead apron must be worn by any all individuals in the room. Fluoroscope users are also required to wear dosimeters while operating the unit.

7. If dosimeters are issued, they must be returned to Radiation Safety (601 W. 168th St, MC70, NYC, NY 10032) within 22 days of the end of the wear period.

E. **Responsibility**

   - The owner/operator of the unit is responsible for training workers on the safe operation of the unit.
   - Radiation Safety is responsible for providing general safety training for users of RPE and to document that training via Rascal.

F. **Emergency contact**

   1. Morningside Radiation Safety: (212) 854-8749
   2. Columbia University Medical Center Radiation Safety: (212) 305-0303

G. **Medical Surveillance** – N/A

H. **Recordkeeping** – N/A

I. **Appendices** – N/A

J. **Forms** – N/A

K. **References**

   1. New York City Health Code Article 175 Radiation Control
   2. 10 NYCRR Part 16 Radiation Control