

## Criteria for Users of Radioactive Materials

The following criteria are used by the Radiation Control and Policy Committee (RCPC) when approving qualified personnel for specific uses of radioactive materials obtained under the authority of license number State of Florida Bureau of Radiation Control (BRC) License 32-10. Guidelines are also included for Facilities personnel performing their duties in radiation areas. A "user" referred to in these criteria means a qualified person performing experiments using radioactive materials.

Each Principal Investigator (PI) and additional users of radioactive materials:

- Must read, be familiar with, and follow the procedures outlined in these online resources
- Shall submit a "[Proposal for use of Radioactive Materials](#)" which must be approved by the RCPC before the experiments begin. The PI must sign all proposals. The Radiation Safety Officer (RSO) will assist in the completion of the form and will present the request to members of the RCPC for evaluation and signature if approved. Approval will be granted if the Committee agrees that the proposed use satisfactorily meets adequate control and radiation safety requirements.
- The PI must obtain an amendment to his/her proposal, approved by at least the RCPC Chair and the RSO, before substantially deviating from the kinds of radioisotopes, the maximum activities, the areas of use, or the experiments described on the proposal. The RSO may approve minor changes in the proposal, including the addition of up to one millicurie in the amount of activity authorized.
- Shall indicate on the proposal additional users of the radioactive materials and describe their experience, training, and capabilities to safely conduct experiments using radioactive materials.
- Must submit to the RSO a curriculum vitae (CV) that is no more than five years old. The CV should include practical hands-on experience working with radioactive materials.
- A proposal is issued for a period not to exceed five years, at which time the proposal may be resubmitted for another review by the RCPC.
- The RCPC will approve proposals only if convincing evidence is provided that the user is competent in performing all applicable phases of the proposed experiments. If, after reviewing the proposal and supporting information, the RCPC members have questions about the safety of the proposed use, they may require further details of the experiment and delineation of specific equipment and techniques and the expertise of the researcher before approving the proposal that may include the following:
  - A personal interview with the user and/or the PI for specific details of the experiment.
  - That the users first make trial runs of the experiment using non-radioactive materials.
  - Specific types of equipment and techniques to be used under certain conditions.

### Classification of Users and Specific Criteria

- Principal Investigator
  - To be designated as a PI, an individual must have the approval of the RCPC. In granting this approval the following criteria, in addition to those cited elsewhere in this section, shall be used as a guide in evaluating the person. A PI:
    - Shall be an experienced user of radioactive materials and considered competent in directing the proposed radiation program.

- Shall be assured that the necessary funds are available to cover the costs of safely conducting the proposed radioactive experiments.
  - Is responsible for personnel within the program, ensuring that they have the ability to safely conduct their assigned duties.
  - Is responsible for submitting a proposal for each proposed use of radioactive materials. Each proposal must be signed by PI.
  - Is responsible for ordering, maintaining security, maintaining inventories and keeping disposal records of all radioactive materials authorized by the approved proposal.
- Some Specific Duties of the PI:
  - Have a current and complete proposal on file with the RSO.
  - Observe all safety recommendations, rules and regulations of FSU, BRC, and the federal government; and any special conditions required by the RCPC or the RSO.
  - Immediately, report to the RSO any accident involving radioactive materials or equipment producing ionizing radiation.
  - Notify the RSO of shipments of radioactive materials that are received directly by the laboratory. The RSO shall be notified of all shipments or transfers of radioactive materials to and from the University.
  - Submit a routine inventory report for radioactive materials to the RSO. This report shall include the kind and amount of radioactive material on hand, receipts, and disposals, and shall indicate the method of disposal. The RSO provides forms for these reports.
  - Ensure that all personnel who work with radioactive materials are listed on the proposal and have reviewed and are familiar with the applicable parts of the Radiation Safety Manual.

- Associate Investigator (Supervisor)

An Associate Investigator is authorized to conduct individual experiments (working alone) within the guidelines of the PI's proposal, but they must have at least the following extent of experience working with radioactive materials:

- At least six months' work experience as a Radioisotope Worker.
  - A visitor with adequate experience or training may work as an Associate Investigator, even though the individual is not employed by the University.
- Radioisotope Worker (Directly Supervised)

The position of Radioisotope Worker is established primarily for personnel who will be working with very low levels of radioactive materials involving minimal hazards. Direct supervision is required. Direct supervision means that the supervisor (PI or Associate Investigator) must work closely with the individual, physically demonstrate the procedures, and give instruction on the hazards of the experiment. The supervisor should be physically present, unless convinced that the worker understands the procedures and can safely perform the assigned duties. The supervisor should be readily available for the worker to contact in case of need.

If the person has had no experience working with radioactive materials, that person, before conducting radioactive experiments, must work as a trainee for an initial period with the supervisor physically present. The trainee should make trial runs, when necessary, using non-radioactive materials until the worker can safely conduct or assist in conducting the radioactive experiments. Such a trainee should also take the Radiation Safety Short Course as soon as it is next offered. Since the short course is offered no more than once a semester, the trainee should be scheduled for one-on-one training with radiation safety personnel as soon as possible. This one-on-one training will usually consist of a question-and-answer session with the RSO or designee present. Refresher training is required of every individual at intervals not to exceed seven years. <http://www.safety.fsu.edu/sections/radtraining.php>

- Radiation Safety Appointee (Responsible User)

The PI may appoint a knowledgeable individual to promote radiation safety in the laboratory, to keep records (inventories, surveys, etc.), and to report incidents to the RSO. This individual will usually be the contact person for Radiation Safety personnel and will be responsible for the following functions:

- Requisitions - Review requisitions for ordering radioactive materials to ensure that the materials and the quantities are authorized by the proposal.
- Inventories - Submit quarterly inventories to the RSO, including the dates and amounts of all receipts, transfers and disposals.
- Waste - Be familiar with the radioactive waste segregation requirements for the various radionuclides, quantities and chemical and/or physical forms that are placed in the provided radioactive waste containers. Waste containers shall be identified and labeled with radionuclide present. Do not mix radionuclide wastes e.g. P-32 waste and C-14 waste. Waste must be segregated. Prior to pick up by Radiation Safety personnel, list the radioactive waste contents on the forms provided. Waste pick-up requests can be made [online](#) (FSUID required). See [Radioactive Waste](#) for more information.
- Signs and labels - Any laboratory apparatus in which radioactive materials are used or stored; such as, freezers, refrigerators, centrifuges, cabinets, etc., must display the "Caution Radioactive Materials" sign or labeling tape, either of which can be obtained from the RSO. The RSO must be notified when these units are moved to a new location, disposed of, or otherwise withdrawn from use. Radiation Safety personnel must check these items for contamination prior to transfer or disposition. See [Signs and Labels](#) for more information.
- Laboratory Controls
  - Report contamination incidents to the RSO.
  - Maintain a clean lab with minimal clutter on the radioactive workbench and in hoods.
  - Provide proper shielding, as necessary, in areas where radioactive materials are stored.
  - Point out careless practices and poor techniques of other radioactive materials users and explain proper procedures.

- Report items of noncompliance to the RSO, persistent problems, and consistent lack of cooperation of users with the Radiation Control Appointee.

#### Special Instructions for Facilities Personnel

- Maintenance Personnel

Maintenance personnel, who are required to work in laboratories where possible radiation hazards exist, must be informed of those hazards and be supervised when necessary. Radiation Safety personnel should be notified by the PI, or their designee, before maintenance personnel start work on such projects, so that proper safety will be provided when necessary.

The following examples are types of projects that should be reported to the RSO before work is begun:

- Changing filters in hoods or glove boxes in which radioactive materials have been used.
- Working on drains or sinks that have been used for the disposal of radioactive materials.
- Working on laboratory equipment that is likely to be contaminated with radioactive material.
- Machining parts that may be radioactive by induced activity, e.g., bombarded with neutrons.

- Building Services Personnel

Building Services personnel must be apprised of any radiation hazards present and as to the meaning of warning signs and labels. Radiation Safety personnel provide this training on an as needed basis.