

FLORIDA INTERNATIONAL UNIVERSITY

UNIVERSITY SAFETY COMPLIANCE GUIDE

RADIATION

SECTION 400

ENVIRONMENTAL HEALTH & SAFETY,
INSURANCE & EMERGENCY MANAGEMENT SERVICES

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USCG 401 – APPLICATION FOR USE OF RADIOACTIVE MATERIALS

Last Update: 05/01/01

PURPOSE

To assure compliance with the requirements of University Radioactive Material License and State Bureau of Radiation Control.

SCOPE

This guideline applies to individuals and operations that are to be carried out on University Premises.

GUIDELINES

All individuals who wish to use Radioactive Materials on University Premises must submit an application to become an authorized user under the University to the Radiation Safety Officer. This application shall include the following items:

1. Copy of resume
2. Copy of records for training in use of radioactive materials
3. Completed RC-1 form
4. Proposal for use of radioactive materials
 - a. What isotopes will be used?
 - b. How much activity will be used?
 - c. Where will these isotopes be used? (Please provide floor plan)
 - d. Details of procedures for use
 - e. Detailed safety procedures

The application package is reviewed by the Radiation Safety Officer for completeness and then submitted to the University Radiation Control Committee for approval.

The applicant is required to be present at the committee meeting when application is evaluated to provide clarifications as required by the committee.

After committee approval is received, the application is then forwarded to the Director of Environmental Health & Safety for endorsement.

The approved and endorsed application is then submitted to the Bureau of Radiation Control, Tallahassee for license amendment.

For more information regarding this guideline, contact the Department of Environmental Health and Safety at (305) 348-2621.

USCG 402 – PERSONNEL MONITORING PROCEDURES

Last Update: 05/01/01

PURPOSE

To assure the safety of the user and compliance with the requirements of University Radioactive Material License and State Bureau of Radiation Control.

SCOPE

This guideline applies to all individuals working with radioactive materials on University Premises.

GUIDELINES

Personal monitoring devices must be worn by personnel as specified below and/or in such instances as deemed necessary by the University Radiation Safety Officer.

Monitoring badges shall be worn when:

1. An individual enters or works in a radiation area where he may receive a dose in any calendar quarter in excess of 25% of the maximum permissible exposure levels.
2. Working with any apparatus (such as X-ray machines, Klystron tubes, electron microscopes, etc.) capable of producing or emitting ionizing radiation and as deemed necessary by the Radiation Safety Officer.
3. An additional monitoring badge (ring) shall be worn by individuals who physically handle radioactive materials and are likely to receive a higher extremity dose.

All dosimetry badges are to be obtained from the Department of Environmental Health & Safety. Permanent records of dosimetry badge readings will be maintained by the Department of Environmental Health & Safety for all personnel who use them.

Whenever an individual's dosimetry badge is lost or damaged it should be immediately reported to the Department of Environmental Health & Safety at (305) 348-2621. A new badge will be issued and until the new badge is received the individual should refrain from using radioactive materials.

All monitored personnel shall comply with the following with regard to personnel dosimetry devices:

1. Never use another worker's badge; if a spare badge is used, mark it with the name or initials of the individual using it.
2. Wear badges on torso, at or above the waist and below the shoulder, and wear dosimeter(s) beside the badge.
3. Store badges with their control badge whenever possible. Always keep badges from extreme environmental conditions such as intense heat or light that may affect a badge's ability to accurately record radiation exposure.
4. Return badges to the Department of Environmental Health & Safety, Insurance & Emergency Management Services promptly at the end of each quarter to ensure timely processing.

5. Spare/visitor badges assigned to new hires or contract employees can only be worn for the first month of employment; an assigned badge imprinted with the worker's name and /or other form of identification will be ordered immediately upon employment and provided for use in the second monthly monitoring period.

For more information regarding this guideline, contact the Department of Environmental Health and Safety at (305) 348-2621.

USCG 403 – PURCHASE OF RADIOACTIVE MATERIALS

Last Update: 05/01/01

PURPOSE

To assure compliance with the requirements of the University Radioactive Material License and the State Bureau of Radiation Control.

SCOPE

This guideline applies to all purchases of radioactive materials under the various University Radioactive Materials Licenses.

GUIDELINES

The following procedure must be followed when ordering radioactive materials under any of the University Licenses.

1. All requisitions for radioactive materials must clearly show that item being ordered contains radioactive isotopes including name of isotope and the activity level ordered.

Example: **Radioactive Materials**

Isotope: P32-A

Activity: 500 microcuries

2. The delivery address for all radioactive material must be given as follows:

3. **For License # 963-1 & 963-2:**

Environmental Health & Safety

University Park, CSC 162

Miami, FL 33199

4. **For license # 2846-1:**

Radiation Safety Office, Attn: Dr. Dua

10555 West Flagler St., CEAS 2290

Miami, FL 33174

5. All requisitions shall be submitted to the Radiation Safety Officer for approval before being sent to the Purchasing Department.
6. In the event that the Radiation Safety Officer is unavailable, the Chair of the Radiation Control Committee or the Director of Environmental Health & Safety or his/her designee is authorized to perform this function if an emergency purchase is required.

Failure to comply with this procedure will result in the automatic suspension of the privilege to work with radioactive materials under the University licenses and will require the user to reacquire certification (attend and successfully complete the Radiation Safety Seminar).

For more information regarding this guideline, contact the Department of Environmental Health and Safety at (305) 348-2621.

USCG 404 – DECOMMISSIONING OF A RADIATION LABORATORY

Last Update: 05/01/01

PURPOSE

To establish the proper procedures for Principal Investigators who are leaving the University and vacating a laboratory that was designated as a radiation control area. This standard will detail the steps required to properly decommission a radiation control area.

SCOPE

University-wide

GUIDELINES

1. Vacating Radioactive Materials Laboratories

- a. To ensure compliance with existing Federal and State law it is essential that the Radiation Safety Officer be notified at least 30 days prior of the authorized user's intention to vacate or decommission a radioactive materials laboratory.
- b. In addition to the notification, surveys for residual radioactive materials or contamination must be conducted to assure the safety of future occupants of the laboratory.
- c. Transportation of radioactive materials should be coordinated with the Radiation Safety Officer.

2. Authorized User Responsibility

- a. Each authorized user shall, before vacating any radioactive materials laboratory, notify Radiation Safety Officer in writing of such intent with a 30-day notice.
- b. Each authorized user shall ensure that all areas of the laboratory that are contaminated with radioactive material are permanently decontaminated to as low as reasonably achievable.
- c. Each authorized user shall ensure that pre-decommissioning surveys are carried out and that arrangements are made for the removal of all radioactive waste and radioactive waste containers. In addition, all storage areas [containers, draws, cabinets, refrigerators, safes, rooms, etc. are free and clear of all radioactive materials.

3. Radiation Safety Officer Responsibility

- a. Upon notification from the authorized user that the radiation control area is ready for decommissioning, the Radiation Safety Officer will perform a close-out survey on the lab areas and generate a permanent decommission report for the Department Chair.
- b. Should contamination or radioactive material be discovered, the authorized user shall be notified of all the details of the radiological survey. After corrective action is completed by the authorized user, step #1 will be repeated until the radiation control area is found to be free and clear of any contamination or radioactive material.

For more information regarding this guideline, contact the Department of Environmental Health and Safety at (305) 348-2621.

USCG 405 – SAFE USE OF LASER POINTER DEVICES

Last Update: 06/04/03

PURPOSE

To promote the safe use of laser pointer devices.

SCOPE

University wide.

GUIDELINES

1. The Issue

The light energy emitted from laser pointers into the eye can be more damaging than staring directly into the sun.

Laser devices are ranked by class (1, 2, 3a, 3b and 4) according to their energy or power, and hence, their potential to cause injury. Laser pointers are typically class 2 or class 3a devices. They are usually hand held and emit a low-divergence visible beam of less than 5 milliwatts. Laser pointers are usually limited to a class 3a (5 mW) output or less, however, there are more powerful laser pointers available and these devices present a **significant** potential for an **eye injury** if viewed directly.

2. Use

Laser pointers are typically used in lecture presentation to identify objects or images. Their accuracy and precision is also used in aiming firearms or other visual targeting practice

3. Potential For Injury

The scope of potential for injury with laser pointers has not fully determined even though numerous exposure incidents have been recorded. It has been shown that a momentary exposure to a laser pointer, such as might occur from an inadvertent sweep of the beam across a person's eye usually causes a **temporary impairment** and does not usually result in a retinal burn. However, in addition to the hazards created by exposure to direct beam, other exposure concerns include ocular effects such as **flash blindness**, afterimage, and glare. Ocular exposure to the beam from a pointer could lead to temporary vision dysfunction and present possible physical dangers if the individual is engaged in a vision-critical activity such as driving or operating a equipment during the exposure.

4. Warning Label

Federal law requires a warning on the product label about the potential hazard to the eyes caused by pointer. Users of laser pointers must be alert to the potential hazards and follow the recommended safety procedures.

5. Recommendations

Use laser pointer with caution and only for their intended purpose. Comply with the manufacturer's safety recommendations:

- a. Never point a laser pointer at anyone, and never look directly into the beam.
- b. Never aim a laser pointer at surfaces that would reflect the light back, such as mirrors or mirrored surfaces.
- c. Purchase only those laser pointer devices with a clear warning on the label about the potential to cause eye damage. Read the instructions carefully, and follow them.
- d. Choose a laser pointer that stays on only when you apply pressure with your fingers. That way you can never leave the beam on by accident.
- e. Choose laser pointers with power that is appropriate to serve the intended purpose.

Please contact the Department of Environmental Health and Safety at (305) 348-2621 for additional information if necessary.