

UC Davis Policy and Procedure Manual

Chapter 290, Health and Safety Services

Section 75, Radiological Safety—Health Physics

Date: 9/18/13

Supersedes: 1/9/06

Responsible Department: Environmental Health and Safety

Source Document: N/A

I. Purpose

This section outlines policy and procedures relating to the Health Physics Program for radiological safety. The Health Physics Program assures the safe use of ionizing and non-ionizing radiation through training, consultation, and surveillance consistent with regulatory requirements. The UCD Radiation Safety Manual sets the basic rules and regulations for the Health Physics Program and is designed to assist the Principal Investigator in complying with the University's license for use of radioactive materials, and radiation-producing machines. For lasers, laser systems, and high intensity light sources, refer to the Laser Safety Manual (<http://safetyservices.ucdavis.edu/snfn/safetynets/snml/sn73/LaserSafetyManual.pdf>).

II. Policy

A. UCD Radiation Safety Administrative Advisory Committee

1. The UCD Radiation Safety Administrative Advisory Committee is responsible for advising the Vice Chancellor—Administrative and Resource Management, through the Associate Vice Chancellor--Safety Services, on all matters relating to health physics. The Committee determines whether the kind and quantity of radioisotope requested, the proposed use, and the experience of the research personnel involved adhere to safe health physics practices.
2. The Director of Health Physics Programs, the chairs of the Campus Radiation Use Committee, UCDHS Radiation Use Committee, Campus Cyclotron Radiation Use Committee, and UCD High Intensity Light and Laser Use Committee, 3-5 Principal Investigators who possess active Radiation Use Authorizations, and representatives from Office of Environmental Health and Safety (EH&S) are members of the Radiation Safety Administrative Advisory Committee.

B. Campus Radiation Use Committee

The Campus Radiation Use Committee is responsible for reviewing all applications for the use of radioisotopes and compliance records at main campus locations except the cyclotron operations at Crocker Nuclear Laboratory and Genomics and Biomedical Sciences Facility. The Committee authorizes use of radiation and recommends health physics policy to the Radiation Safety Administrative Advisory Committee.

C. UCDHS Radiation Use Committee

The UCDHS Radiation Use Committee is responsible for reviewing and authorizing all applications for the use of ionizing radiation at UCD facilities in Sacramento and in projects involving the administration of ionizing radiation to humans. The Committee may authorize use of radiation subject to compliance with the Radiation Safety Manual and subject to review by the Radiation Safety Administrative Advisory Committee and may recommend health physics policy to the Radiation Safety Administrative Advisory Committee.

D. Campus Cyclotron Radiation Use Committee

The Campus Cyclotron Radiation Use Committee is responsible for reviewing all productions of radionuclides and all uses of the cyclotrons. The Committee may authorize uses subject to review by the Radiation Safety Administrative Advisory Committee and may recommend health physics policy to the Radiation Safety Administrative Advisory Committee.

E. UCD High Intensity Light and Laser Use Committee

The UCD High Intensity Light and Laser Use Committee is responsible for setting adequate and reasonable policy pertaining to the safe use of lasers, laser systems, and high intensity light sources. The Committee may also review any special uses of these sources to ensure safe practices and assure the American National Standards (ANSI) for safe use of lasers, laser systems, and high intensity light sources are followed.

III. Procedures

Requests to use ionizing radiation are separated into the following categories: (1) nonhuman use (research and classroom), (2) human use, and (3) radiation-producing machines. Separate radiation use applications are required for each category. Refer to the Radiation Safety Manual for details. For requests to use research lasers or high intensity light sources, refer to the Laser Safety Manual for details.

A. Responsibilities

1. Department chairs

Department chairs are responsible for review and approval of proposed uses of radionuclides, radiation-producing machines, and lasers within their departments. Such approval demonstrates the department's willingness to assist in providing the resources necessary to control potential hazards and assist in the enforcement of University policies and procedures.

2. Principal Investigator

The Principal Investigator (PI) named on the UCD Radiation Use Authorization (RUA), X-ray Producing Machine Use Authorization (MUA), or the Laser Use Authorization (LUA) is responsible for safety and compliance with all applicable State, Federal, and University requirements. This includes:

- a. Instructing all coworkers listed on the RUA in good health physics practices, including:
 - 1) Control and measurement of contamination.
 - 2) Use of protective clothing and equipment.
 - 3) Operating and emergency procedures specific to task (safety protocols).
 - 4) Maintenance of records on receipt, use, transfer, and disposal of radioactive material.
- b. Ensuring that only work authorized by the approved RUA, MUA, or LUA is carried out.
- c. Ensuring operations involving radioactive materials, radiation-producing machines or lasers are performed by properly instructed and authorized personnel.
- d. Maintaining records of receipt, transfer, current inventory, and disposal of all radioactive materials.
- e. Maintaining records of radiation fields and contamination monitoring.
- f. Posting warning labels, guidelines, and other appropriate postings as requested by EH&S or the State Department of Public Health.
- g. Notifying EH&S of all changes in the RUA, MUA, or LUA such as changes in location, personnel, experiments (safety protocols).
- h. Notifying EH&S immediately in the case of an accident involving radiation or potential excessive exposure.

- i. Ensuring the use of personnel dosimetry and survey instruments as applicable.
 - j. Assigning an alternate PI to assume control of the use and storage of the radioactive materials in the event of extended leave or absence.
 3. Office of Environmental Health & Safety
EH&S is responsible for the implementation of the campus health physics program and for assuring that UC Davis is in compliance with State and Federal regulations as they apply to radiation safety.
 4. Director of Health Physics Programs
Provides the technical oversight and direction to both the Davis campus and UCDHS Health Physics programs in collaboration with the Director of Environmental Health & Safety. The Director of Health Physics Programs is a voting member of the UCD Radiation Safety Administrative Advisory Committee.
- B. Purchase of radioactive material
 1. UCDHS departments/accounts
All purchases of radioactive materials must be accomplished through established UCDHS purchasing channels and with the approval of the UCDHS Health Physics Office. Purchases shall be requested on standard UCDHS purchase requisition forms identifying the type and amount of radioactive material desired, the suggested vendor, the RUA number, and any special instructions for shipping and handling. The material is to be delivered to UCDHS Health Physics unless otherwise approved by the appropriate (campus or UCDHS) Radiation Safety Officer (RSO).
 2. Davis campus departments/accounts
All purchases of radioactive materials may be accomplished directly by departments that have current RUAs. These purchases must be for items covered by an M3 supply agreement (see <http://dafis.ucdavis.edu/howdoi/agreement/index.cfm>) and have a total less than the open vendor (OV) purchase delegation (see Section 350-21). These purchases are initiated directly to the radioactive material vendor on a DaFIS Departmental Purchase Order, identifying the type and amount of radioactive material desired, the RUA number, the University supply agreement number, and any special instructions for shipping and handling. The material is to be delivered to the Environmental Services Facility, 2201 Environmental Services Lane (for Davis location orders), or to UCDHS Health Physics (FSSB 2500) for Sacramento location orders, unless otherwise directed by the appropriate RSO. The only exception to the central delivery point is for orders initiated by and for Bodega Marine Laboratory. Departments must initiate and cite the above information on a DaFIS Purchase Requisition when desired radioactive materials cost more than the OV purchase delegation and are not covered by an M3 supply agreement.

IV. Further Information

For further information, contact EH&S at (530) 752-1493.

V. References and Related Policies

- A. Environmental Health & Safety, Radiological Safety Web site (http://safetyservices.ucdavis.edu/ps/rs/fmp_Rad):
 1. Radiation Safety Manual (http://safetyservices.ucdavis.edu/ps/rs/fmp_Radf/radSafety_Manual.pdf).

2. Radiation Safety Manual Forms
(http://safetyservices.ucdavis.edu/ps/rs/fmp_Radf/rsmF/radiationSafetyManualForms).
 3. Analytical X-ray Safety Manual
(http://safetyservices.ucdavis.edu/ps/rs/xrpm/XRay_ProducingMachines).
 4. Diagnostic X-ray Safety Manual
(http://safetyservices.ucdavis.edu/ps/rs/xrpm/XRay_ProducingMachines).
 5. Safe Handling of Radioisotopes Manual
(http://safetyservices.ucdavis.edu/ps/rs/fmp_Radf/shR/safeHandlingofRadioisotopes).
 6. EH&S SafetyNets (<http://safetyservices.ucdavis.edu/sfn/safetynets/rs>).
 7. Laser Safety Manual.
- B. UCDHS Policy and Procedure Manual:
1. Section 1642, Medical Laser Safety.
 2. Section 1660, Radiation Dosimetry.
- C. UCD Policy and Procedure Manual Section 350-21, Departmental Purchase Delegations
(<http://manuals.ucdavis.edu/PPM/350/350-21.pdf>).