



SEC-009 Radiation Safety Program

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Last Revised Friday, February 18, 2022

Policy Type [University](#)

Contact Office

[Environmental Health and Safety](#)

Oversight Executive

[Vice President for Research](#)

Applies To

Academic Division The Medical Center The College at Wise

Table of Contents

[Policy Statement](#)

1. [Responsibilities](#)
2. [Personal Monitoring and Radiation Dosimetry](#)
3. [Obligation to Report Events or Unsafe Conditions to the RSO](#)
4. [Compliance with Policy](#)

[Procedures](#)

Reason for Policy

This policy exists to ensure that the uses of radioactive material and radiation producing equipment by University faculty, staff, students, and Medical Center employees are performed in such a way as to protect users, staff, patients, and the general public from unnecessary radiation exposure.

The University has established a Radiation Safety Program to ensure best practices are used with ionizing radiation, to monitor the use of ionizing radiation, and to comply with Virginia Department of Health (VDH) regulations (12VAC5-481 "Virginia Radiation Protection Regulations").

Definition of Terms

[As Low As Reasonably Achievable \(ALARA\)](#)

A principle of radiation safety aiming to minimize undue radiation exposure.

[Ionizing Radiation](#)

Alpha particles, beta particles, electrons, protons, gamma rays, x-rays, neutrons, and other particles capable of ionizing materials.

[Licensee](#)

The University as a recipient of a Commonwealth of Virginia Radioactive Materials license issued under the regulations in the Virginia Administrative Code (VAC) 12 VAC5-481.

Radiation Producing Equipment (RPE)

Any machine or system that, when energized, is designed to emit ionizing radiation as a result of its operation.

Radiation Safety Officer (RSO)

The individual identified by the University to oversee the Environmental Health & Safety-Radiation Safety Program.

Radiation Worker

An individual engaged in work under a license or registration issued by the Virginia Department of Health (VDH).

Radioactive Materials (RAM)

Any solid, liquid, or gas which emits radiation spontaneously as defined in the Virginia Administrative Code (VAC) 12VAC5-481.

Registrant

A person who has registered radiation producing equipment with the Virginia Department of Health.

Policy Statement

All University faculty, staff, students, and Medical Center employees must use radioactive materials (RAM) and radiation producing equipment (RPE) in such a way as to protect users, staff, patients, and the general public from unnecessary radiation exposure. The University's operating philosophy is to maintain all radiation exposures As Low As Reasonably Achievable (ALARA).

It is the policy of the University of Virginia:

- to maintain a Radiation Safety Program which facilitates safe use of ionizing radiation;
- to maintain a Radiation Safety Committee (RSC) which provides oversight of the Radiation Safety Program;
- to employ a Radiation Safety Officer (RSO) who manages the Environmental Health & Safety (EHS)-Radiation Safety Program;
- that ionizing radiation exposures be kept as low as reasonably achievable; and
- that all ionizing radiation usage be performed in compliance with Virginia Administrative Code (VAC) 12VAC5-481.

1. Responsibilities:

The ***Radiation Safety Officer*** is responsible for the implementation, coordination, day-to-day oversight, and management of the EHS-Radiation Safety Program as well as reporting overexposure events and medical events to the Virginia Department of Health in a timely manner. The RSO has the authority to

enforce radiation policies and procedures regarding radiation safety and regulatory compliance of the use of ionizing radiation.

The ***Radiation Safety Committee*** is responsible for working with executive management and the RSO in implementing the Radiation Safety Program and establishing policies and procedures for managing the Radiation Safety Program. It is comprised of the RSO, representatives of executive management, and persons trained and experienced in the safe use of RAM and RPE. At a minimum, each area of use under the RAM license should be represented on the RSC.

Specific duties and responsibilities performed by the RSC include:

- Monitoring timely and effective resolution of corrective actions to assure the effectiveness of the Radiation Safety Program;
- Enforcing compliance with the program, including imposition of sanctions for non-compliance;
- Making recommendations to the Vice President of Research on risk management issues related to radiation safety;
- Reviewing and approving, modifying or denying all proposals for RAM use;
- Voting to approve, disapprove, or amend RAM license proposals;
- Reviewing the dosimetry reports and ALARA reports; and
- Reviewing and approving the annual audits conducted as part of the Radiation Safety Program.

The ***Chief Diagnostic Medical Physicist*** is responsible for the registration, commissioning, administration, inspection, safe use, and decommissioning of all diagnostic RPE machines used for healing arts within the University and UVA Health.

The ***Radiation Oncology Director of Radiological Physics*** is responsible for the registration and radiation safety of RPE and RAM used in the Department of Radiation Oncology. Additional responsibilities include creation, maintenance, and implementation of radiation safety policies that are applicable only to radiation oncology RPE and RAM, ensuring appropriate personal radiation dosimetry monitoring usage in radiation oncology, and reporting radiation oncology medical events to the RSO and RSC.

2. **Personal Monitoring and Radiation Dosimetry:**

Each supervisor/manager must identify those individuals in their respective areas who will be exposed to ionizing radiation, ensure they contact the EHS-Radiation Safety Program to obtain a dosimeter, and use proper dosimetry.

The University, through the EHS-Radiation Safety Program, shall provide radiation dosimeters to individuals who work with or around ionizing radiation after the individual completes the required radiation safety training and submits the appropriate application.

A radiation dosimeter shall be obtained and worn by individuals:

- operating RPE unless instructed specifically not to as part of their job role;
- activating fluoroscopic RPE or directing others to activate fluoroscopy; or
- working continuously within 6 feet of the field being imaged by fluoroscopic RPE.

Workers who declare their pregnancy are governed under policy [SEC-010: Radiation Worker Protection during Pregnancy](#).

Individuals whose radiation exposures exceed predefined levels as per the Radiation Safety Program and the RAM license application shall be notified and counseled on ALARA methods specific to their work environment to reduce radiation exposure.

Radiation exposures to individuals who are issued dosimetry will be reviewed by EHS-Radiation Safety Program staff. Personnel whose doses exceed predefined levels are presented to the RSC for review who may recommend actions to be taken. Personnel exposures exceeding regulatory limits must be reported to the Virginia Department of Health. The RSO and/or Registrant is responsible for reporting such events to the RSC and submitting written reports to the Virginia Department of Health in a timely manner.

3. Obligation to Report Events or Unsafe Conditions to the RSO:

Radiation workers must immediately report to the RSO any events or unsafe conditions which may lead to or cause a violation of VDH Regulations or unnecessary exposure to radiation and/or radioactive material.

Examples of specific events that must be immediately reported to the RSO include but are not limited to:

- Medical event as defined by [12VAC5-481-2080](#).
- A patient or human research subject (involving use of radioactive material or sources) has a medical emergency or dies.
- Loss or theft of any radioactive material or sources.
- Misadministration from therapeutic x-ray procedures as defined by [12VAC5-481-10](#).

4. Compliance with Policy:

Failure to comply with the requirements of this policy may result in disciplinary action up to and including termination or expulsion in accordance with relevant University policies and may result in prosecution in accordance with state law.

Violations of state law may result in significant financial penalties. Such penalties will not be paid from central University resources but must be borne by the laboratory, department, College, or School responsible for the facility in violation.

The Radiation Safety Committee enforces compliance with the program and imposes sanctions for non-compliance.

Questions about this policy should be directed to the Radiation Safety Officer in [Environmental Health and Safety](#).

Procedures

Information regarding radiation safety and obtaining radiation dosimeters can be found at: [UVA Radiation Safety Program](#). Information regarding x-ray devices can be found at: [UVA Medical Physics Support](#).

Related Information

[Radiation Safety Guide](#)
[12VAC5-481 “Virginia Radiation Protection Regulations”](#)
[SEC-010: Radiation Worker Protection during Pregnancy](#)

Major Category [Safety, Security and Environmental Quality](#)

Next Scheduled Review Monday, July 1, 2024

Revision History

Added Section 3 2/18/22; Revised 7/1/21; Edited Policy Statement 1/20/21; Updated 2/10/20; 9/27/11, 8/25/2008.

Applies To Text

Academic Division, the Medical Center, and the College at Wise.

Supersedes Policy Text

SEC-031: Required Reporting of "Events" Involving Radiation Exposure or Radioactive Materials; SEC-009: Utilization of Radioactive Materials

Last modified February 5, 2024 - 3:11pm

Approved By Executive Vice President and Chief Operating Officer

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