

# Radiation Safety Program

The University of Rhode Island (URI) is authorized by the Rhode Island Department of Health (RIDOH) to receive, acquire, possess, and transfer certain radioactive materials and sources of radiation; and to use such for purpose(s) and at designated locations, to further its mission of research and education. The URI License and Registration conditions require strict control of the use of radioactive materials and radiation producing devices to ensure that radiation exposures to all individual including URI personnel and members of the public are maintained As Low As Reasonably Achievable (ALARA).

The URI Radioactive Material Safety Manuals, X-ray Safety Manual, and Laser Safety manual are the primary radiation protection reference for users and the University community. These manuals, approved by the URI Radiation and Laser Safety Committee (RLSC), represents official university policy on radiation related programs. Particularly for radioactive material users, as part of the broad-scope radioactive material license for the URI, violations of its policies and procedures are citable as areas of non-compliance by the Rhode Island Department of Health (RIDOH). In addition, for X-ray users, as part of the X-ray registration for the URI, violations of its policies and procedures are citable as areas of non-compliance by the RIDOH. Copies of the radioactive materials license, license application, supporting documents, X-ray registration, and the applicable state regulations for radiation protection are maintained for review by Authorized Users and other interested individuals during regular business hours in the Radiation Safety Office.

## **ALARA**

The University has established policies and procedures designed to encourage regulatory compliance and maintain occupational exposures of individuals within regulatory radiation exposure limits. Occupational doses are maintained ALARA.

ALARA is a part of the normal work process where people are working with ionizing radiation. The URI makes every reasonable effort to maintain exposures to radiation as far below the regulatory dose limits as is practical consistent with the purpose for which the licensed activity is undertaken. Within the ALARA principle, all levels of individuals in all areas, must take an active role in minimizing this radiation exposure.

The Radiation Safety Program applies to all individuals who purchase, possess, transfer, store, use, or handle radioactive materials in any amount, licensed or license exempt, and/or radiation producing devices including lasers at the University. The University requires that all users of radioactive materials or radiation producing devices on the campus receive appropriate radiation safety training, be approved by the Radiation Safety Officer (RSO), authorized by the RLSC, and comply with applicable regulatory requirements including RIDOH's radiation control program regulations to ensure that radiation exposure levels are maintained ALARA.

Responsibility for implementing the Radiation Safety Program to maintain the license and registrations is delegated appropriately within the campus. The organization of the University Radiation Safety Program includes the RLSC, RSO, Radiation Safety Staff (Health Physicist), Authorized users, and Radiation Workers.

### **Radiation and Laser Safety Committee (RLSC)**

The Radiation and Laser Safety Committee (RLSC) at the URI shall be composed of a Chair and other members who have experience with radioactive materials or radiation producing devices. The Committee shall include representatives from departments or colleges using radioactive materials or radiation producing machines, an individual from the environmental health and safety, and the RSO.

When a new RLSC chair and/or new RSO was appointed, this change shall be submitted to the RIDOH. The RLSC shall meet to conduct official business at a minimum of once a calendar quarter and four times per calendar year. The RLSC may meet at other times on request of the Chair or the RSO. Majority of members shall constitute a quorum; however, a quorum may not be declared without the presence of the Committee Chair and the RSO. For an absence of the RLSC chair or the RSO, they can delegate their role to other individuals. The RLSC chair can delegate his/her role to another individual in the committee in writing and the RSO can delegate to an individual in the radiation safety staff in writing.

The RLSC is charged with ensuring that the URI's Radiation Safety Program remains in compliance with the State Radiation Regulations 216 RICR 40.20 as well as other applicable regulations. The RLSC advises the URI administration including the President about radiation hazards at the URI. The RLSC operates under the functional authority of the President.

The RIDOH grants the URI a Radioactive Material Broad Scope License and X-ray Registrations. As required by the license and registrations conditions, the RLSC was appointed to formulate policies and procedures relating to radiation safety.

The RLSC works with the RSO at least but not limited to:

- Review and grant permission for, or disapproval of, the use of radioactive material and/or radiation producing devices including lasers and x-ray machines at the URI.
- Propose changes to procedures, equipment, or systems.
- Prepare and distribute information on radiation safety and provide safety training in the use of and requirements pertaining to radioactive material and radiation producing devices at the URI for the instruction and guidance of the faculty, staff, and students.

- Provide additional technical expertise to the Radiation Safety Program. Review and support the Radiation Safety Program and assist with solutions to issues arising from the use of radioactive materials and radiation producing devices.
- Shutdown or order the immediate termination of work in any facility where it has evident that health hazards exist and/or operations are in violation of existing federal, state, other applicable regulations, and/or the URI policies.
- Investigate any violations and enforce any necessary disciplinary action, and notify the RIDOH of any reportable incidents.

### **Radiation Safety Staff (Including the Radiation Safety Officer)**

The Radiation Safety Staff acts as the operational functionary for the RLSC and the University community. The RSO is working with the Radiation Safety Staff to implement the University's Radiation Safety Program, maintaining regulatory compliance, and establishing good health physics work practices at the URI facilities.

The RSO has authority, delegated by the licensee through the University President to the Radiation Safety Committee, to take such actions as necessary including but not limited to ceasing the use of radioactive materials and radiation producing devices, providing safety of the public with regard to radioactive materials and radiation producing devices, and performing necessary actions to enforce the URI's radiation safety program.

The RSO is the primary administrative officer of the radiation safety program and the RSO will at least:

- Prepare and maintain a Radiation Safety Program for the University and work with the RLSC to develop and enforce policies and procedures as necessary to protect all individuals from potential radiation hazards and maintain required records.
- Advise the RLSC about radiation hazards, make recommendations for the approval or disapproval of new facilities and/or authorized users, and provide the appropriate signage and postings for radiation laboratories.
- Distribute information on radiation safety protection and provide specific radiation safety training.
- Administer the URI's Radioactive Material Broad Scope License and X-ray Registrations with the RIDOH.
- Inspect all URI's laboratory facilities using radioactive materials or radiation producing devices to ensure safe use and compliance with the RIDOH Regulations.

- Provide radiation dosimetry and a survey program to ensure that any radiation exposure to faculty, staff, students, visiting researchers, and all individual at the campus are within ALARA.
- Provide health physics services and consultative technical support to faculty, staff, students, visiting researchers, and all individual at the campus.
- Perform investigations and report incidents to the RIDOH.

### **Authorized Users**

Authorized Users (AUs) are specifically authorized by the RLSC to obtain and use radioactive materials and/or radiation producing devices at specified locations within the University properties. AUs are qualified by training and experience to supervise the use of radioactive materials or radiation-producing devices at URI. AUs are responsible for all terms and conditions of their authorizations including but not limited to completion and maintaining current radiation safety training requirements, storage of radioactive materials, safety of their radiation workers, and their compliance with all applicable regulations. Within a department, laboratory, or other unit, only the AU may initiate the transfer or purchase of radioactive materials.

### **Radiation Workers**

Radiation Workers are specifically approved to work with radioactive materials and/or radiation producing devices under the authorization of their AUs. Radiation Workers assume certain responsibilities in their work. The individual radiation worker is the "first line of defense" in protection of people and the environment against undue risks of radiation exposure and/or contamination. Since the radiation workers, themselves, are the direct handlers of the radioactive material, the final responsibility lies with them for safety and compliance with laws and regulations. For this reason, it is critical that they be aware of the risks, safe practices and requirements for the use of radioactive materials. Due to the understanding of safety and risks, minors (under 18) are not allowed to be radiation workers.

### **Non Radiation Workers**

Non Radiation Workers who are not authorized to work with radiation including visitors, staff without authorization, maintenance personnel, emergency personnel including public safety personnel, and non-radiation workers in radiation use laboratories will be provided with radiation awareness training. In addition, non-radiation workers in radiation use laboratories should be properly educated by the AUs and/or the Laboratory Managers on radiation safety hazards in the laboratories.

## University Organization Chart

The University of Rhode Island has established administrative controls and provisions relating to organization and management, procedures, record-keeping, material control, and accounting and management review that assure safe operations. The University has established a Radiation and Laser Safety Committee, appointed a qualified Radiation Safety Officer and established appropriate administrative procedures. The administrative procedures assure:

1. Control of procurement and use of byproduct material;
2. Completion of safety evaluations of proposed uses that take into consideration adequacy of facilities and equipment, training and experience of the user, and operating and handling procedures; and
3. Review, approval, and recording by the Radiation and Laser Safety Committee for safety evaluations of proposed uses.

As shown in this simplified University organization chart, the Radiation and Laser Safety Committee reports to the University's President Office. The Radiation Safety Officer reports to the Radiation and Laser Safety Committee. The Radiation Safety Office is budgeted through and coordinates its activities with the University's Public Safety Department. The Public Safety Department reports to the Vice President for Administration and Finance. The Vice President for Administration and Finance reports to the University's President. Radiation and Laser Safety Committee Chair is appointed by the Vice President for Administration and Finance.

