

Section 3

UW Administration

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In addition to federal and state regulation of ionizing radiation, the University of Washington also provides its own administrative systems and procedures to assure proper control of radiation sources and radioactive materials.

A. Radioactive Materials License

The University of Washington’s Radioactive Materials License of Broad Scope (license number WN-C001-1) is issued under authority of the State of Washington Department of Health (DOH). This license is designed to allow the University of Washington (UW) reasonable latitude for self-regulation. The issuance of a License of Broad Scope is contingent upon a satisfactory determination by the DOH of four key elements in the UW’s radiation safety program:

1. Key Elements

a. Supervision

Adequate supervision and control at the administrative level.

b. Personnel

Personnel with sufficient qualifications to adequately perform proposed uses of radiation.

c. Procedures

Adequate procedures for protecting health and safety.

d. Facilities/Equipment

Suitable facilities, equipment, and associated oversight for the proposed operations.

2. Broad License

To allow the flexibility that is essential for an educational, research, and clinical institution, certain portions of the review function are delegated to the licensee. It is also required that the degree of institutional control over individual users is compatible with regulatory control that would otherwise be exercised by the DOH. Washington Administrative Code (WAC 246-235-090) indicates that a Broad License may be granted if:

"The applicant has established administrative controls and provisions related to organization and management, procedures, record keeping, material control, and management review that are necessary to assure safe operations, including: (iii) The establishment of appropriate administrative procedures to assure: (A) Control of procurement and use of radioactive material (B) Completion of safety evaluation of proposed uses of radioactive material which takes into consideration such matters as adequacy of facilities and equipment, training and experience of the users, and the operating or handling procedures; and (C) Review, approval, and recording by the radiation safety committee of safety evaluation of proposed uses prepared in accordance with (B) of this section prior to use of the radioactive material."

B. Executive Director for Health Sciences Administration

Authority for the Radiation Safety Program at the University of Washington originates from the Board of Regents, which has full control of the University. The Board of Regents designated the UW President as the chief executive officer. The President designated the Executive Director for Health Sciences Administration as the individual responsible for advising the President about all health related activities of the UW.

The Executive Director for Health Sciences Administration has appointed the Director for the Environmental Health and Safety Department (EH&S) to provide supervision and administrative support for the radiation safety program. Also, the Executive

Director for Health Sciences Administration establishes procedures for radiation safety, and appoints the members of the University of Washington Radiation Safety Committee to give advice and be the technical and scientific lead for the radiation safety program.

C. Radiation Safety Committee

WAC 246-235-090 further states that: “Each Type A specific license of broad scope issued under this part shall be subject to the condition that radioactive material possessed under the license may only be used by, or under the direction of individuals approved by the licensee's radiation safety committee.”

The Executive Director for Health Sciences Administration is the individual responsible for advising the President about all health related activities of the University. The UW Radiation Safety Committee (RSC) reports to the Executive Director of Health Sciences Administration and is charged with recommending policies and procedures with respect to radiation safety. This includes administrative controls to assure compliance with University of Washington and State of Washington requirements and regulations for use of radiation. The Committee is authorized to approve in advance either directly or through delegated authority all individual uses or categories of use of radioactive material. The Committee is further authorized to rescind that approval for cause.

1. Specific Responsibilities and Duties

The responsibilities and duties listed below are intended to provide specific guidance to the Radiation Safety Committee:

a. Responsibilities

1) Review and Approve Applications

a) Ionizing Radiation

All ionizing radiation possessed by the University of Washington, and used on or within property that is owned by, leased by, or under the control of the UW and operated by UW personnel.

b) Human Subjects

All research or experimental programs supported by or through the University of Washington, which require approval by the University Human Subjects Review Committee and involve intentional administration of radiation or radioactive materials to human experimental subjects.

c) Clinical Uses

All clinical uses of ionizing radiation, including diagnosis and therapeutic uses at hospitals or clinical facilities which are operated by UW personnel.

2) Establish Procedures

Establish procedures for review of proposals that include:

- a) A critical examination of the details of the proposed use.
- b) The adequacy of training and experience of users.
- c) The adequacy of the equipment, facilities, and procedures.

3) Evaluate University of Washington Resources

Evaluate the adequacy of UW resources that are necessary to meet applicable regulations, especially those provided to the Department of Environmental Health and Safety.

4) Rescind Approval

Rescind approval for further use of ionizing radiation for due cause.

5) Administrative Controls

Establish necessary administrative controls to assure that there is adequate surveillance over the UW's radiation safety program.

6) Advising Executive Director

Advise the Executive Director for Health Sciences Administration and the Director for Environmental Health and Safety on matters pertaining to radiation safety.

7) Committee Procedures/Bylaws

Establish committee procedures and bylaws necessary to function effectively.

b. Duties

1) Establish Possession Limits

Establish possession limits and other specific restrictions as necessary for each individual user who is directly authorized by the RSC.

2) Specify Possession Limits

Specify possession limits and general restrictions to define those uses of ionizing radiation that are generally authorized without specific action by the RSC.

- a) Specify possession limits and general restrictions to define those uses of ionizing radiation that can be authorized directly by the Radiation Safety Officer.
- b) Specify possession limits and general restrictions to define those uses of ionizing radiation that can be authorized directly by the RSC Scientific Executor and the Radiation Safety Officer, acting together.

3) Restriction

Direct the Radiation Safety Officer and appropriate University of Washington officials to:

- a) Immediately prohibit any uses of ionizing radiation that present either an acute health hazard or a serious violation of license conditions or UW regulations; or
- b) Restrict uses of ionizing radiation that are not in compliance with either license conditions or UW regulations.

4) Reports

Review routine and special reports of the Radiation Safety Officer and initiate action as may be indicated to fulfill committee responsibilities.

5) Accidents/Incidents

Review reports of accidents and incidents for the purpose of determining causes and the means for preventing a recurrence.

6) Assist in Procedure/Policy Development

Assist in the formulation of procedures and policies for the UW radiation program.

7) Radiation Safety Manual

Review and endorse the Radiation Safety Manual.

8) Radiation Safety Officer

Participate in the selection of the Radiation Safety Officer.

9) Annual Audit

- a) Conduct an annual audit of the radiation safety program which will include reviewing a report of the Radiation Safety Office operations, examining required records and written procedures, reviewing results of the State Department of Health (DOH) inspections and resulting University of Washington commitments. The audit will include an evaluation of adequacy of the UW's management control system for radiation matters. The RSC may request assistance in the performance of the audit by an outside expert in radiation safety.
- b) Summarize the findings from the annual audit and report them to the Executive Director for Health Sciences Administration.

10) Delegate Authority

Delegate authority to the Radiation Safety Officer, or to the Radiation Safety Officer and the Scientific Executor working together, to approve some uses of ionizing radiation that would be needlessly delayed by a requirement for action by the full committee.

2. Frequency and Quorum for Radiation Safety Committee Meetings

The Radiation Safety Committee typically meets every other month. However, a meeting can be skipped as long as one meeting is held each calendar quarter. A meeting quorum is at least five members.

D. Radiation Safety Officer

The Radiation Safety Officer is responsible for the day-to-day coordination and management of the radiation safety program.

1. Management Reporting Structure

The Radiation Safety Officer is appointed by and reports to the Director for Environmental Health and Safety (EH&S). The Director for EH&S reports to the Executive Director for Health Sciences Administration.

2. Authority in Emergencies and Discovery of Non-Compliant Actions

Actions taken under this section will be reported to the Radiation Safety Committee and the Director for EH&S.

3. Authority to Terminate Use

a. Non-Compliance

The Radiation Safety Officer has the authority to immediately terminate the use of radiation that is:

- 1) Found to be a threat to health, safety, or property; or
- 2) Considered to be out of compliance with regulations or license conditions.

b. Improper Authorization

The Radiation Safety Officer has the authority to prevent the use of any radiation source or radioactive material that either the Radiation Safety Officer or Radiation Safety Committee has not properly authorized.

4. Authority to Impound

a. Non-Compliance

The Radiation Safety Officer has the authority to impound any radiation source or radioactive material that is:

- 1) Found to be a threat to health, safety, or property; or
- 2) Considered to be out of compliance with regulations or license conditions.

b. Improper Authorization

The Radiation Safety Officer has the authority to impound any radiation source or radioactive material that is not properly authorized by the Radiation Safety Committee or the Radiation Safety Officer.

5. Radiation Safety Staff

The Radiation Safety Officer position is a full-time assignment and is supported by a staff. The Radiation Safety (RS) staff currently consists of 6 full-time health physicists, 3 full-time technicians, 2 half-time technicians, and 2 three-quarter-time office staff.

6. Responsibilities

a. Administration

- 1) Manage the administrative aspects of the Radiation Safety Office (RSO), under general direction of the Director for Environmental Health and Safety (EH&S).

- 2) Supervise the RS staff, including offering recommendations to the Director for EH&S on hiring, promotion and disciplinary action, and conducting performance evaluations.

b. Resources and Facilities

- 1) Manage resources and facilities assigned to the RSO.
- 2) Recommend budget or other resource needs to the Director for EH&S.

c. Advising EH&S Director

- 1) Advise the Director for EH&S on the status of the radiation safety program.
- 2) Recommend action necessary to maintain the program in full compliance with regulations and license conditions.

d. Reports/Program Plan for EH&S

Provide reports and program plans as deemed necessary by the Director for EH&S to allow performance of management obligations.

e. Annual Report for Radiation Safety Committee

Provide an annual report to the Radiation Safety Committee (RSC) regarding the radiation safety program activities.

f. Approving Radiation Use

Approve the use of radiation within limits of authority delegated to the Radiation Safety Officer by the RSC.

g. Radiation Safety Manual

Revise the UW Radiation Safety Manual and administrative procedures for the radiation safety program, as needed.

h. Applications

- 1) Review and submit applications for the use of radiation to the RSC.
- 2) Prepare all applications for license amendment and negotiate the terms of license conditions in the best interest of the University of Washington.

i. Advising/Informing Radiation Safety Committee

Advise and inform the RSC on all matters not otherwise specified that should come to the attention of the RSC.

j. General Surveillance

Maintain general surveillance of overall radiation safety activities involving radiation machines and radioactive materials, including routine monitoring and special surveys of all areas where radiation work is done.

k. Compliance

Determine compliance with rules and regulations, license conditions and the conditions of project approvals specified by the RSC.

l. Receiving and Shipping Radioactive Materials

- 1) Receive, survey as appropriate, and deliver all shipments of radioactive material arriving for use at the University of Washington.
- 2) Package and ship or assist with the proper packaging and shipping of radioactive material leaving the University of Washington.

m. Radionuclide Inventory

- 1) Maintain an inventory of all radionuclides at the University of Washington. The inventory shall include the name of the Authorized Investigator responsible for each quantity of a radionuclide, where it will be used or stored, and the date the quantity was received and disposed by the Authorized Investigator.
- 2) Limit the quantity of radionuclides at the University of Washington to the amounts authorized by the license and by RSC authorizations.

n. Radioactive Waste

Supervise and coordinate the radioactive waste disposal program, including keeping waste storage and disposal records and monitoring or calculating effluents.

o. Unwanted Radioactive Materials and Devices

Assume control of radioactive materials and devices no longer needed by Authorized Investigators, including waste.

p. Personnel Monitoring

- 1) Distribute and arrange for processing of personnel monitoring devices.
- 2) Determine the need for and evaluation of bioassays.
- 3) Keep personnel exposure and bioassay records.

- 4) Notify individuals and their supervisors of exposures approaching maximum permissible amounts and recommend appropriate remedial action.

q. Instrument Calibration

- 1) Supervise the survey instrument calibration program, including keeping a current listing of survey instruments at the University of Washington.
- 2) Notify instrument owners of need for calibration.
- 3) Arrange for calibration of meters that are past due.

r. Sealed Sources

Supervise leak tests and inventory of sealed sources.

s. Training

Conduct training programs and otherwise instruct personnel in the proper procedures for the safe use of radioactive materials.

t. Consulting Services

Provide consulting services on all aspects of radiation protection to personnel at all levels of responsibility.

u. Decontamination

Provide consultation for decontamination, including supervision and monitoring.

v. Records

Maintain other records not specifically designated above as required by WAC 246-220-020, Records, and WAC 246-221-230, Records important to radiation safety.

7. Radiation Safety Office

The Radiation Safety Office (RSO) provides oversight to University of Washington departments using radiation to do so in a safe and legal manner. In order for the UW to meet its regulatory responsibility, the RS staff interprets regulations and establishes programs to assure their compliance.

However, a more fundamental purpose of the radiation safety program is to establish and encourage good practices so investigators satisfy basic radiation protection philosophy. That is, to conduct programs to the extent practical so occupational doses and doses to members of the public are As Low As Reasonably

Achievable (ALARA).

a. Technical and Administrative Support

Provides technical and administrative information to the Authorized Investigators. Information on campus resources or commercial systems that are unfamiliar to the Authorized Investigators may be beneficial to their programs.

b. Survey and Monitoring Program

A survey and monitoring program is a part of the RS staff's routine work. Additional surveys may be beneficial in some instances to complement laboratory programs or to assist in non-routine projects or following an incident. The Authorized investigator may request these services, but the Radiation Safety Officer will provide additional support at his/her discretion and if resources are available.

c. Training

Radiation safety training is provided in several different formats. In addition to the regularly scheduled training program, special training sessions can be scheduled for the convenience of a staff group or to address a special problem or type of work. RS staff training will not substitute for specific task training in the laboratory prior to the beginning of radiation work.

d. Shipment of Radioactive Material

Packaging and shipping services are available for radioactive material from the RS Shipping and Receiving Office. The stringent requirements of the Department of Transportation must be met in shipping radioactive material, as well as any hazardous material.

e. Radioactive Waste

Disposal of radioactive waste is an important task of RS staff. Policies on routine disposal methods are established by the Radiation Safety Office and must be followed. RS staff will work with the Authorized Investigators when special problems develop or assist in reducing costs within the standard procedures.

f. Bioassays and Internal Dose Assessments

Bioassays and internal dose assessments are provided as a routine program for some radionuclides, and by special arrangements as needs develop.

g. Personnel Dosimetry

Personnel dosimetry and external dose assessments are provided through the

distribution of film badges and other dosimetry. Arrangements can be made for special measurements and area monitoring to evaluate shielding requirements or other protective measures.

h. Authorization Assistance

Assistance is available to assure that authorization criteria are understood.

i. X-ray Equipment

Safety surveys and fluoroscopic dose assessments for x-ray equipment are normally done on an annual basis to evaluate compliance with standards for radiation protection. Additional equipment evaluations and support in defining experimental dose parameters will be provided to the extent that resources are available.