SIMON FRASER UNIVERSITY
ENGAGING THE WORLD

TO: Senate

FROM Joy Johnson
Chair – Senate Committee on Agenda and Rules

DATE: January 22, 2021

SUBJECT: Updated Policy R20.04

For Information

SCAR has determined that this policy should be forwarded to Senate for information at its meeting on February 1, 2021.

SFU OFFICE OF THE VICE-PRESIDENT, RESEARCH

Memorandum

From: Trevor Davis, Executive Director, Research Operations **Date**: 2021-01-11

To: Joy Johnson, Chair, SCAR

Re: Updated Policy R20.04

Policy R20.04 provides guidance for the safe and responsible use and management of radioactive materials and/or equipment that emits ionizing or non-ionizing radiation. This policy aims to ensure that SFU complies with federal, provincial and local legislation and the regulations, codes, and statutes of applicable regulatory authorities.

The broad purpose of the revisions were to a) modernize the documents and ensure alignment with current regulations; b) combine two previously separate policies (R20.04 and R20.05 into one comprehensive policy in order to cover all types of radiation safety in the same place; and c) to streamline the document and associated procedures. The revisions provide greater clarity for researchers and administration surrounding responsibilities, roles and regulations, and increase awareness and understanding of the corrective process. Procedures have been removed from the policy as the 'Radiological Safety Program' documents render them redundant.

Action requested: As per Policy B10.00, I am requesting that SCAR determine whether Senate needs to approve the policy, recommend it to the Board, or receive the policy for information. This request includes retiring Policy R20.05 (Non-ionizing Radiation Safety).

Review History

Executive Approval	Feb 5, 2019
UC Feedback	June-Sept, 2020
Policy Authority Approval	Oct 28, 2020
Radiation Committee and SRS	Multiple consultations, latest Sept, 2020
Community Consultation	Oct, 2020
Executive Approval	Dec 15, 2020

RADIATION SAFETY

Date	Number
June 26, 1997	R 20.04
Date of Last Review/Revision	**Mandated Review**
TBA	TBA

Policy Authority: Vice-President Research and International

Associated Procedure(s): Terms of Reference for University Radiation Safety Committee

EXECUTIVE SUMMARY

Simon Fraser University is committed to providing a safe and healthy learning, teaching, research and work environment for all members of the University community. This policy, along with the related programs for ionizing and non-ionizing radiation safety, such as the Radiation Safety Program, X-ray Safety Program and Laser Safety Program, provide resources and guidance for the safe and responsible use and management of radioactive materials and/or equipment that emits ionizing or non-ionizing radiation. This policy aims to ensure that Simon Fraser University complies with federal, provincial and local legislation and the regulations, codes, and statutes of applicable regulatory authorities.

TABLE OF CONTENTS

1.0 PURPOSE

1.1 The purpose of this policy is to:

1.1.1 provide a framework for ensuring the safety of students, faculty, staff, the community and the environment when radioactive materials and/or equipment that emits ionizing or non-ionizing radiation are used under the auspices of SFU;

1.1.2 establish roles and responsibilities and authority for implementing, overseeing, and enforcing the Radiation Safety, X-ray Safety and Laser Safety programs;

1.1.3 establish the measures to promote safe use of radioactive materials and/or equipment that emits ionizing or non-ionizing radiation;

1.1.4 facilitate research and teaching in compliance with federal, provincial and local legislation and the regulations, codes and statutes of applicable regulatory authorities;

1.1.5 require that all exposures to radiation conform to the As Low As Reasonable Achievable principle ("ALARA");

1.1.6 require that activities involving ionizing radiation are justified and that only activities demonstrated to be either neutral and non-detrimental or that will produce a positive net benefit shall be undertaken.

2.0 SCOPE AND JURISDICTION

2.1 This policy applies to all personnel, at the following locations, who work with radioactive materials and/or equipment emitting ionizing or non-ionizing radiation under the auspices of SFU:

2.1.1 those laboratories described in the Licence and administered by the Radiation Safety Officer (RSO) and the University Radiation Safety Committee (URSC);

2.1.2 those additional laboratories which are approved by the URSC, RSO and the CNSC, during the tenure of the Licence; and/or

2.1.3 those locations on or away from all campuses of SFU where personnel associated with SFU use radioactive materials and/or equipment that emits ionizing or non-ionizing radiation for teaching, research or operational activities, and are not under the control of a local safety regime

3.0 DEFINITIONS

3.1 Please see Appendix A for the definitions of words used in this policy and its associated procedures.

4.0 POLICY

4.1 Simon Fraser University is committed to protecting all members of the University community and the environment from any adverse effects resulting from the use of radioactive materials and/or equipment emitting ionizing or non-ionizing radiation. This will be achieved by:

4.1.1 Ensuring all legislative requirements for the safe acquisition, use, storage, transfer and disposal of radioactive materials and/or equipment that emits ionizing or non-ionizing radiation are met.

4.1.2 Ensuring that no activity using radioactive materials be undertaken unless it can be demonstrated that it will produce a positive net benefit.

4.1.3 Using the As Low As Reasonably Achievable (ALARA) principle for all decisions regarding the use of radioactive materials and radiation to minimize exposure.

4.2 The Radiation Safety, X-ray Safety and Laser Safety Programs have been developed and shall be maintained under the oversight of the URSC to ensure that legislative requirements are followed to protect the health and safety of staff, students, the public, and the environment, while at the same time, ensuring that the use of the radioactive material or equipment that emits ionizing or non-ionizing radiation in research results in a benefit to the public and advances the goals of the University.

4.3 The Radiation Safety, X-ray Safety and Laser Safety Programs describe the roles and responsibilities of all personnel and the requirements for training, exposure control, reporting and inspections. Under these Programs, the Radiation Safety Officer (RSO) or Laser Safety Officer (LSO) works with the University Radiation Safety Committee and other key stakeholders to ensure compliance with legislative requirements.

4.4 The Radiation Safety Officer (RSO) or the Laser Safety Officer will inform the University Radiation Safety Committee (URSC) when an individual has violated the terms of this policy or the License. Upon notification, the URSC will take corrective action or sanctions appropriate to the nature of the violation, which may include, but are not limited to immediate suspension of a permit and/or use of radioactive materials or use of equipment that emits ionizing or non-ionizing radiation and filing an allegation of misconduct against the individual responsible.

5.0 ROLES AND RESPONSIBILITIES

5.1 Applicant Authority

5.1.1 Assumes full legal and financial responsibility for the Licence on behalf of SFU;

5.1.2 Ensures adequate resources are allocated by the University to ensure the Radiation, X-ray and Laser Safety Programs are maintained in accordance with all relevant regulations; and

5.1.3 Appoints an RSO in accordance with the required qualifications outlined by the CNSC.

5.2 University Radiation Safety Committee (URSC)

5.2.1 Is responsible for oversight and enforcement of the University's radiation safety programs and for ensuring the development, implementation, and compliance with radiation safety policies, regulations, and procedures for all activities involving

radioactive materials and/or equipment emitting ionizing or non-ionizing radiation under the auspices of SFU.

5.3 Director, Research and Laboratory Safety

5.3.1 Acts as a liaison between the URSC and the portfolios under the Vice-President, Finance and Administration, including Safety and Risk Services. The Director, Research and Laboratory Safety also acts as a liaison between the other research safety committees at the University that report to the Vice-President, Research and International.

5.3.2 Notifies the CNSC within 15 days of any change of the Applicant Authority or the Applicant Authority's contact information, and of the RSO or the RSO's contact information.

5.4 Radiation Safety Officer (RSO)

5.4.1 Provides professional advice and assistance in all matters related to safe use of radioactive materials and X-ray emitting devices

5.4.2 Develops, updates, recommends and implements policies and procedures for the safe use of radioactive material and X-ray emitting devices in accordance with applicable regulations and as described in the Radiation Safety Manual and X-ray Safety Manual, respectively

5.4.3 Advises the URSC on matters regarding ionizing radiation safety, including what is required to set up and maintain adequate radiation safety and X-ray safety programs

5.5 Laser Safety Officer (LSO)

5.5.1 Provides professional advice and assistance in all matters related to safe use of laser equipment

5.5.2 Develops, updates, recommends and implements policies and procedures for the safe use of lasers in accordance with applicable regulations, and as described in the Laser Safety Manual

5.5.3 Advises the URSC on matters regarding laser hazards and laser safety, including what is required to set up and maintain an adequate laser safety program.

5.6 Permit Holders

5.6.1 Initiate a review and seek prior approval by applying for a Permit from the RSO for any research and/or teaching program using radioactive materials;

5.6.2 Ensure that safe laboratory practices are followed and all operations are in compliance with the conditions of the Permit, applicable policies, regulations, radiation safety standards, and according to University-specific procedures as described in the Radiation Safety Manual;

5.6.3 Ensure that all Authorized Users have received adequate radiation safety training or experience and have been informed of the risks of exposure to ionizing radiation. Permit Holders are responsible for providing specific training in handling of radioactive materials in their laboratories.

5.7 Authorized Users of Radioactive Materials

5.7.1 Follow specific procedures in the Radiation Safety Program.

5.7.2 Complete mandatory SFU training.

5.7.3 Conduct thorough risk assessments and apply the ALARA principle to minimize exposure in the use of radioactive materials.

5.8 Users of Equipment that emits Ionizing or Non-ionizing Radiation

5.8.1 Follow specific procedures in the X-ray Safety Program, Laser Safety Program or other applicable guidelines.

5.8.2 Complete mandatory SFU training.

5.9 Conduct thorough risk assessments and apply the ALARA principle to minimize exposure in the use of equipment that emits ionizing or non-ionizing radiation.

6.0 REPORTING

6.1 The Director, Research and Laboratory Safety reports to the Canadian Nuclear Safety Commission as detailed in the *Nuclear Safety and Control Act*.

7.0 RELATED LEGAL, POLICY AUTHORITIES AND AGREEMENTS

7.1 The legal and other University Policy authorities and agreements that may bear on the administration of this policy and may be consulted as needed include but are not limited to:

7.1.1 *University Act*, R.S.B.C. 1996, c. 468

7.1.2 *Freedom of Information and Protection of Privacy Act*, R.S.B.C. 1996, c. 165

7.1.3 *Workers Compensation Act*, S.B.C. 2019, c. 1 and related Occupational Health & Safety Regulations;

7.1.4 *Nuclear Safety and Control Act,* S.C. 1997, c. 9 and the related Radiation Protection Regulations and Nuclear Substances and Radiation Devices Regulations

7.1.5 Student Conduct Policy (S10.05)

7.1.6 Employee Collective Agreements and relevant human resource policies;

7.1.7 University Occupational Health and Safety Policy (GP 17).

8.0 ACCESS TO INFORMATION AND PROTECTION OF PRIVACY

8.1 The information and records made and received to administer this policy are subject to the access to information and protection of privacy provisions of British Columbia's *Freedom of Information and Protection of Privacy Act* and the University's Information Policy series.

9.0 RETENTION AND DISPOSAL OF RECORDS

9.1 Information and records made and received to administer this policy are evidence of the University's actions to [describe actions]. Information and records must be retained and disposed of in accordance with a records retention schedule approved by the University Archivist.

10.0 POLICY REVIEW

10.1 This policy must be reviewed every five years and may always be reviewed as needed.

11.0 POLICY AUTHORITY

11.1 This policy is administered under the authority of the Vice-President, Research and International

12.0 INTERPRETATION

12.1 Questions of interpretation or application of this policy or its procedures shall be referred to the Vice-President, Research and International whose decision shall be final.

13.0 PROCEDURES AND OTHER ASSOCIATED DOCUMENTS

13.1 Appendix A contains the definitions applicable to this policy.

13.2 Schedule A: Terms of Reference for University Radiation Safety Committee

13.3 All procedures associated with this Policy, including the responsibilities of all personnel and the requirements for training, exposure control, reporting and inspections are detailed in the University's:

13.3.1 Radiation Safety Program,

13.3.2 X-Ray Safety Program, and

13.3.3 Laser Safety Program

APPENDIX A – DEFINITIONS – RADIATION SAFETY

Date	Number
June 26, 1997	R 20.04
Date of Last Review/Revision	**Mandated Review**
[date]	[date]

Policy Authority: Vice-President Research and International

Parent Policy: R20.04 Radiation Safety

1.0 PURPOSE

1.1 The definitions in this Appendix define the words used in the Radiation Safety Policy.

2.0 DEFINITIONS

2.1 **Applicant Authority** means the member of the University's senior management who assumes full legal and financial responsibility for the Licence. At SFU, the Applicant Authority is the Vice-President, Research and International.

2.2 **Authorized User** means a person authorized to handle radioactive materials under a permit.

2.3 **Ionizing Radiation** means any electromagnetic radiation or particle radiation having sufficient energy to produce ions in its passage through matter. Substances and equipment that emit ionizing radiation include radioactive materials and X-ray generating devices, respectively.

2.4 **Laser Safety Officer (LSO)** means the person responsible for the day-to-day administration of the Laser Safety Program. The LSO must be trained on potential hazards, control measures, applicable standards, and medical surveillance as it pertains to laser safety.

2.5 **Licence** means a consolidated Nuclear Substances and Radiation Devices licence issued by the CNSC to the University.

2.6 **Non-ionizing Radiation (NIR)** means any form of electromagnetic radiation that does not carry enough energy per quantum to ionize atoms or molecules. Equipment that emits NIR includes, but is not limited to, lasers, laser systems and ultra-violet lights.

2.7 **Permit** means the internal approval granted by the University Radiation Safety Committee (URSC), Radiation Safety Officer (RSO) and Director, Research and Laboratory Safety for projects under its jurisdiction.

2.8 **Permit Holder** means the person responsible for a permit application. The Permit Holder shall be an employee of the University with training and experience acceptable to the University Radiation Safety Committee (URSC) in the safe handling of radioactive material.

2.9 **Radioactive Material** means any substance capable of producing ionizing radiation.

2.10 **Radiation Safety Officer (RSO)** means the person who provides day-to-day administration of the Radiation Safety and X-ray Safety Programs on behalf of the URSC and the University, and is appointed by the Applicant Authority. The RSO should have relevant, practical work experience and must meet the minimum qualifications for an RSO specified by the CNSC.

2.11 **Regulations** means all legislation, regulations, standards and safety codes that apply to radioactive materials and/or ionizing and non-ionizing radiation, when used in research, teaching or operational activities. The regulatory authorities include, but are not limited to:

Canadian Nuclear Safety Commission (CNSC)
International Atomic Energy Agency (IAEA)
WorkSafeBC
Health Canada
American National Standards Institute (ANSI)
Natural Resources Canada (NRCan)

2.12 **University** means Simon Fraser University.

2.13 **University Radiation Safety Committee (URSC)** means the body responsible for oversight and enforcement of the Radiation Safety, X-ray Safety and Laser Safety Programs at SFU.

2.14 **User** means a person who uses or operates equipment that emits ionizing or non-ionizing radiation and includes responsible users under the X-ray Safety Program and laser workers under the laser safety program.

SCHEDULE A. UNIVERSITY RADIATION SAFETY COMMITTEE TERMS OF REFERENCE

Date	**Number**
September 23, 1999	R20.04
Date of Last Review/Revision	**Mandated Review**
[date]	[date]

Policy Authority: Vice-President Research and International

Parent Policy: R20.04 Radiation Safety

1.0 PURPOSE

1.1 The Simon Fraser University Radiation Safety Committee (URSC) is authorized to oversee and enforce the University's ionizing and non-ionizing radiation safety programs, such as the Radiation Safety, X-ray Safety and Laser Safety Programs. The URSC derives its authority from the Board of Governors, through the Office of the Vice-President, Research and International, and provides policy direction and recommends changes to the Vice-President, Research and International for all teaching, research and operational activities involving the use of radioactive materials and equipment that emits ionizing or non-ionizing radiation.

1.2 The URSC supports the SFU commitment to provide a safe and healthy learning, teaching, research, and work environment by monitoring the Radiation Safety, X-ray Safety and Laser Safety Programs to assure compliance with federal, provincial and local legislation and the regulations, codes and statutes of applicable regulatory authorities.

2.0 MANDATE

2.1 Administrative

2.1.1 Ensure the development, implementation and compliance with radiation safety policies, regulations and procedures for all activities involving radioactive materials as regulated by the CNSC, and for the use of equipment that emits ionizing or non-ionizing radiation under the auspices of SFU;

2.1.2 Review and approve new permit applications and existing permit renewals as issued by the RSO for the use of radioactive materials;

2.1.3 Review and provide input into the annual report prepared by the RSO

2.2 Compliance

2.2.1 Review the Radiation Safety, X-ray Safety and Laser Safety Programs and Radiation Safety Policy regularly to determine if all activities meet the conditions of the licence and/or applicable legislation and recommend changes to the Vice -President, Research and International;

2.2.2 Review reports and updates from the RSO and LSO for instances of non-compliance with CNSC and any other relevant regulations or standards and recommend remedial action to correct any deficiencies;

2.2.3 Review summary results of internal and external inspections and recommend appropriate action as required;

2.2.4 Impose sanctions or initiate corrective actions against Permit Holders or Users in case of non-compliance.

2.3 Advisement

2.3.1 Advise the Vice-President, Research and International, the RSO and the LSO on policies and protocols relating to the Radiation Safety, X-ray Safety or Laser Safety Program to promote safe and environmentally appropriate practices, in support of compliance with regulatory and University requirements;

2.3.2 In consultation with the RSO and LSO, review, recommend and act as an expert resource for radiation safety education and training programs for University personnel;

2.3.3 Advise the Vice-President, Research and International, and Chief Safety Officer of the need for additional resources to establish, maintain, or improve the Radiation Safety, X-ray Safety or Laser Safety Program in adherence to ALARA principles.

3.0 MEMBERSHIP

3.1 Members of the URSC are persons with expertise and experience in the use of radioactive materials and/or equipment that emits ionizing or non-ionizing radiation, or who can act as a representative for their respective unit within the University.

3.2 All members of the URSC are appointed by the Vice President, Research and International for a three-year renewable term, except the graduate student representative whose term is one year.

3.3 The USRC Chair, in consultation with the Vice-President, Research and International may, when deemed necessary, appoint a consultant with specific expertise to provide advice and assistance to the URSC.

3.4 Member selection

3.4.1 If members of a faculty, department, or other unit either begin or cease to use radioactive materials or equipment that emits ionizing or non-ionizing radiation, a URSC representative may be added or removed by the Vice-President, Research and International at the recommendation of the Chair of the URSC, the RSO or LSO.

3.4.2 The appointment terms of URSC members expire on September 30th in a given year. When an appointment term expires, the Director, Research and Laboratory Safety will contact the appropriate Dean, Chair or Director to either nominate a new member, or recommend the current member have their appointment renewed. All new nominees and

member renewals are sent to the Vice-President, Research and International for appointment.

3.4.3 If a member resigns during their term, the Director, Research and Laboratory Safety will contact the appropriate Dean, Chair or Director to nominate a new member to the Vice-President, Research and International for appointment.

3.4.4 Voting members of the URSC are appointed as follows:

a. One person nominated by the Dean of the Faculty of Environment;

b. One person nominated by the Dean of the Faculty of Health Sciences;

c. One person nominated by the Dean of the Faculty of Applied Sciences;

d. One person nominated by the Chair of the Department of Biological Sciences;

e. One person nominated by the Chair of the Department of Biomedical Physiology and Kinesiology;

f. One person nominated by the Chair of the Department of Chemistry;

g. One person nominated by the Chair of the Department of Molecular Biology and Biochemistry;

h. One person nominated by the Chair of the Department of Physics;

i. One person nominated by the Senior Director of Campus Public Safety;

j. One person nominated by the Facilities Services Director of Maintenance & Operations;

k. One graduate student nominated by the Graduate Student Society.

3.4.5 Non-voting resource members of the URSC consist of the following:

a. Director of Research and Laboratory Safety;

b. Radiation Safety Officer;

c. Class II Radiation Safety Officer;

d. Radiation Safety Technician;

e. Laser Safety Officer;

f. One resource person with working knowledge and expertise in lasers and laser systems.

4.0 MEETINGS

4.1 Chair

4.1.1 The Chair is a member of the URSC with extensive experience in the handling of radioactive materials or equipment that emits ionizing or non-ionizing radiation and shall be nominated and elected by the members for a three-year, renewable term.

4.1.2 If the Chair is away, the Chair may appoint an acting Chair to carry out the responsibilities of that position during their absence.

4.1.3 The Chair co-signs permits with the RSO and the EHS Director, Research and Laboratory Safety, on behalf of the URSC. An appointed acting Chair may sign permits on behalf of the URSC if the Chair is away.

4.1.4 The Chair calls and oversees the regular meetings of the URSC as required for the consideration of license applications, intermediate and high-level radiation projects, as well as emergency meetings involving accidents, violations of radiation safety regulations, or consideration of disciplinary action.

4.2 Meetings

4.2.1 The Committee shall meet at least twice annually. The Chair may call special meetings to deal with any critical issues.

4.3 Quorum

4.3.1 For voting purposes, two thirds of voting members must be present.

4.4 Voting Privileges

4.4.1 The Chair does not normally vote, except to break a tie. All other duly appointed members have voting privileges. Resource members, as listed, are non-voting members of the Committee.

4.5 Secretariat

4.5.1 Environmental Health and Safety shall provide an individual to act as secretary. The secretary shall be responsible for:

a. Recording minutes of the meetings and related correspondence;

b. Circulating meeting minutes to the members and Vice-President Research and International; and

c. Maintaining all URSC documentation.