
Radiation Safety

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Policy Reference:	7150
Category:	Safety, Security, and Emergency Management
Department Responsible:	Safety, Security, and Emergency Management
Current Approved Date:	2012 Mar 30

Objectives

This procedure applies directly to Policy 7150, Occupational Health and Safety.

This procedure describes the roles and required behaviours of BCIT employees, students, and others in administering or working safely with radioactive materials and radiation-emitting devices.

Who This Procedure Applies To

This procedure applies to all members of the BCIT community, including all BCIT employees, students, contractors, and visitors with respect to the use, storage, transportation, and disposal of radioactive materials and radiation-emitting devices.

Related Documents and Legislation

BCIT Policies:

- Policy 7150, Occupational Health and Safety

Canadian Nuclear Safety Commission

- Canada *Nuclear Safety and Control Act*
- General Nuclear Safety and Control Regulations (SOR/2000-202)
- Radiation Protection Regulations (SOR/2000-203)
- Nuclear Substances and Radiation Devices Regulations (SOR/2000-207)
- Packaging and Transport of Nuclear Substances Regulations (SOR/2000-208)

Canadian Standards Association

- CSA Standard Z386-08 – Safe Use of Lasers in Health Care Facilities

Health Canada

- Safety Code 20A, 24, 32, 33, 34 and 35 (x-ray and ultrasound)

WorkSafeBC

- *Occupational Health and Safety Regulation*, Part 7 – Noise, Vibration, Radiation and Temperature

Definitions

Ionization

The conversion of an atom or molecule to an ion by adding or removing charged particles such as electrons or other ions.

Ionizing Radiation

A process in which the radiated energy is able to ionize atoms or molecules of a substance in which the energy is absorbed. This leads to chemical changes that can damage biological tissues and structural materials. Examples: X-rays, gamma rays, alpha particles, and beta particles.

Radiation

Emitted energy, which may consist of electromagnetic waves or moving subatomic particles. Examples: visible light, heat and microwaves.

Radiation Safety

In order to simulate current industry practices and equipment for teaching purposes, it is important that BCIT possess and use instruments and sources emitting both ionizing and non-ionizing radiation. Radiation is potentially hazardous. Therefore, BCIT takes the following steps regarding radiation safety. The Institute:

- Educates, monitors, and advises those employees, students, and contractors, who are involved with radiation sources
- Provides guidelines and procedures to be followed for the safe handling and operation of related materials, instruments, and facilities
- Maintains compliance with applicable laws and regulations.

Duties and Responsibilities

Safety, Security and Emergency Management Department – Radiation Safety Officer

The overall objective of the Radiation Safety Officer is to educate, train, and audit students, staff, and other personnel at BCIT with respect to radiation safety. The Radiation Safety Officer's role is to promote and maintain rigorous compliance with all relevant regulation and licence conditions.

This position provides day-to-day administration and control of radiation safety programs at BCIT, working to implement the Institute's compliance with internal and regulatory agency requirements relating to radiation safety through the creation and implementation of the BCIT Radiation Safety Manual (BCIT Safety Manual – Part 6 Section 90).

BCIT Radiation Safety Committee

The BCIT Radiation Safety Committee has representation from each department that utilizes radioactive materials, devices incorporating radioactive sources, or radiation emitting devices. Committee representatives will have expertise in their area with respect to radiation safety.

The Radiation Safety Committee is established to advise on, monitor, and oversee radiation safety matters at BCIT. The primary role of the Committee is to advise the Radiation Safety Officer and BCIT management on the quality and effectiveness of radiation safety policies and programs and the safety of employee and student work practices.

BCIT Community

All members of the BCIT Community working with or around radiation must be aware of and follow the procedures in the BCIT Radiation Safety Manual. This group must also adhere to all

conditions of the current licence and current federal and provincial regulations. It is the responsibility of these users to use and facilitate the use of radioactive materials and radiation-emitting devices in a manner consistent with ALARA (As Low As Reasonably Achievable) principles to minimize exposures while performing duties in a practical manner.

Amendment History

1. Created 2012 Mar 30

The Radiation Safety Policy 7517 has been retired as a separate policy, and now resides as a procedure under Policy 7150, Occupational Health and Safety. Its amendment history as a policy follows.

1. Created 2003 May
2. Revision 1 2004 Sep 13
3. Revision 2 2004 Dec 1
4. Revision 3 2005 Apr 26
5. Revision 4 2006 Apr 5
6. Revision 5 2009 Jul 21
7. Revision 6 2010 Aug 06
8. Retired 2012 Mar 30