

1.0 Purpose

- 1.1 To outline procedures for the possession, safe use, transfer and disposal of radioactive nuclear substances and radiation devices.

2.0 Applicability

- 2.1 University-wide
- 2.2 All UNB employees and students on both campuses involved with the use of nuclear substances - both open- and sealed-source radioactive nuclides - and radiation devices or other instruments containing sealed nuclear sources. X-ray machines are not addressed in this policy.

3.0 Definitions

- 3.1 None applicable

4.0 Implementation

- 4.1 HAZARD: Exposure to sufficient quantities of ionizing radiation from radioactive nuclear substances can pose a health risk.
- 4.2 REGULATIONS: All radioactive nuclear substances must be handled and disposed of in accordance with the conditions of the UNB licence(s) as instituted by the Canadian Nuclear Safety Commission (CNSC). The CNSC is a federal regulatory agency with responsibility for radiation safety. It ensures that the use of nuclear substances does not pose undue risk to health, safety and security of the public or the environment. The CNSC operates under the authority of the Nuclear Safety and Control Act (1997). The CNSC recommends that radiation dose levels be kept as low as reasonably achievable (ALARA Principle) and below the allowed exposure limits. The CNSC replaced the former Atomic Energy Control Board (AECB).
- 4.3 POLICY:
 - 4.3.1 The University Radiation Safety Committee is responsible for ensuring that the use of all nuclear substances and radiation devices is conducted safely and in accordance with applicable federal regulations and university policy as reflected in the UNB Radiation Safety Manual. The Committee reports to the president of UNB and has the authority to suspend the use of nuclear substances and radiation

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devices that do not comply with university policies and procedures. The safety coordinator administers the radiation safety program on a daily basis.

4.3.2 Projects involving nuclear substances and radiation devices require a Radioisotope User Permit. Completed Permit applications must be submitted to the Radiation Safety Committee prior to:

- starting new projects
- changes in use of nuclear substances or radiation devices, or
- expiry of previously approved applications.

4.3.3 When funding is being sought for new projects involving nuclear substances or radiation devices, the Office of Research Services should identify these projects to the University Director, Risk Management and the Radiation Safety Officer for appropriate input.

4.3.4 The Radiation Safety Committee assesses the safety requirements and laboratory locations proposed for the use of nuclear substances and radiation devices. Any permit application proposing the long-term acquisition of a sealed nuclear substance or radiation device must disclose the provisions for storage requirements. These arrangements must have received prior approval from the department chairperson.

4.3.5 Each transfer, loan, or purchase of nuclear substances and radiation devices requires approval from the safety coordinator to ensure that the request is within the license and permit possession limits.

4.3.6 In order to acquire a sealed nuclear substance or radiation device, the permit holder should address the issues of liability for transport, ownership, and ultimate disposal with the vendor or lessor. If possible, the permit holder should secure a written agreement that would allow UNB to return the nuclear substance or device to the original vendor or lessor at the expiry of a predetermined term or upon prior notice.

4.3.7 The methods for disposal of relatively small kilobecquerel (microcurie) amounts of open-source nuclear substances are outlined in the UNB Radiation Safety Manual. The costs for disposal of routine hazardous wastes are supported by UNB through a central budget.

4.4 PROCEDURES:

4.4.1 Permit application forms, transfer forms, or other information on the use of nuclear substances and radiation devices may be obtained from:

Technical Officer, Radiation Safety

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UNB Fredericton Campus
Campus Mail
Telephone: (506) 453-5075
e-mail: safety@unb.ca

- 4.4.2 Application forms must be signed by the applicant's chairperson or department head and forwarded to the Radiation Safety Officer.
- 4.4.3 The Radiation Safety Committee reviews applications. Radiation User Permits and operating conditions are issued to the applicant (i.e., the permit holder).
- 4.4.4 The permit holder may acquire nuclear substances approved on the permit by completing the UNB Internal Requisition Form or a Radiation Safety Radioactive Material Transfer Form. The permit holder must specify on the form the UNB licence number and the permit number, and forward the form to the safety coordinator.
- 4.4.5 Internal requisition forms are reviewed by the safety coordinator and forwarded to the University's Procurement Manager for processing.
- 4.4.6 Shipments containing nuclear substances should only be received by experienced individuals during normal university operating hours.

5.0 Interpretation and Questions

- 5.1 For copies of Health Canada's Laboratory Biosafety Guidelines or for general information on biohazardous materials, contact: Polly Brinkman-Mills, Department of Biology, University of New Brunswick