SUBJECT: RADIONUCLIDES & RADIATION HAZARD

1. Purpose

The use of radioactive materials in Canada is governed by the Nuclear Safety and Control (NSC) Act which are enforced by the Canadian Nuclear Safety Commission (CNSC) . The act and regulations require a Radiation Safety Program guided by the University of Northern British Columbia's Committee on Radionuclides and Radiation Hazard (CRRM) and administered by the Radiation Safety Officer. The University of Northern British Columbia supports the safe and responsible use of radioactive material and therefore the use of radioactive material requires a Radioisotope Permit issued by the Committee. The policies and procedures that make up the Radiation Safety Program are to maintain a reasonable level of control over the use and disposition of radioactive materials while conforming with the NSC Act without unduly hampering the development of experimental programs. The cooperation of individual users with the Committee and its representatives is vital.

2. As Low As Reasonably Achievable (ALARA)

The University of Northern British Columbia endeavours to provide an environment to ensure the doses of ionizing radiation of all staff and students from the use of radioactive materials do not exceed the limits specified in the Radiation Protection Regulations and be kept as low as reasonably achievable. In any case, the Permit Holder must ensure that no person will be exposed to ionizing radiation in excess of maximum permissible doses listed in the Radiation Protection Regulations .

3. Scope

The Radiation Safety Policy and Procedures will apply to all activities which utilize radioisotopes and radiation emitting devices including:

1) University teaching programs and University research projects
2) research involving the use of University facilities
3) research funded by other agencies through the University
4) any other projects that the Committee deems are within the jurisdiction of the Committee.

4. Committee on Radionuclides and Radiation Hazard (CRRH)

The Committee on Radionuclides and Radiation Hazard (appointed by the President's Council) has been given the responsibility to ensure the implementation and enforcement of a Radiation Safety Program encompassing the ordering, usage, handling, monitoring, storage and disposal of radioactive materials at the University of Northern British Columbia.

5. Authority and Responsibilities of the Committee on Radionuclides and Radiation Hazard

5.1 Authority

The Committee has authority from President's Council to recommend:

1) the procedures for the authorization and control of the use of radioisotopes and radiation producing devices at the University in compliance with the NSC Act, the consolidated license issued by the CNSC and relevant Workers' Compensation Board regulations.

2) the suspension, when necessary, of the use of any radioisotope or radiation producing devices at the University, regardless of the source of authorization.

5.2 Responsibilities

The Committee is responsible for:

1) developing University policy for approval by President's Council with respect to the safe use of radioactive materials and techniques capable of producing hazardous emissions, including: x-rays, lasers and electromagnetic radiations, such as microwave and other potentially hazardous emissions such as ultrasound;
2) advising the University community, its colleges, departments, and researchers of the University and of the special requirements relating to research and transport of the above materials and devices;
3) making recommendations to the University, through the Vice-President (Administration & Finance), concerning the actions to be taken on specific aspects of radiation matters as they arise;
4) advising the development of appropriate procedures for the handling of emergency situations relating to radiation within the University;
5) serving on behalf of the University as reviewing agency for all permits for radioisotopes;
6) providing at appropriate intervals, at least annually, to the University (for submission to President's Council and Board of Governors) and to external agencies, as required, reports on:
    1) situations and activities involving radiation
    2) all radiation incidents and accidents that require external reports on safety aspects
7) acting as a resource body for the University and its faculty and staff to provide:
    1) dissemination of up-to-date information regarding current CNSC and other government regulations concerned with licencing, containment facilities, training procedures and other related matters as they arise
    2) arrangement for providing monitoring facilities, through the Radiation Safety Officer, for both personnel and equipment
    3) a library resource
    4) instructional services in radiation safety and technology
    5) relevant planning advice for new construction and modification of University buildings

6. Authority and Responsibilities of Radiation Safety Officer

6.1 Authority

1) The University Radiation Safety Officer (RSO) works under the advice of and reports to the Chair of the CRRH Committee and the Vice-President (Administration & Finance) on all matters pertaining to radiation safety. The RSO is to assume control in any emergency involving radiation hazards and to take such actions as may be necessary to ensure the safety of personnel, property, and equipment, and to report these actions at the earliest possible time to the Chair of the Committee. The RSO has the authority to shut down, temporarily, any process or laboratory that he or she considers to be in violation of University policy or CNSC regulations.
2) The RSO has the authority to enter research areas to conduct tests required for monitoring safe handling and disposal of radiation sources.
3) The RSO is required to report to the Committee on his or her activities, including advice given and actions taken or recommended.

6.2 Responsibilities

The RSO is responsible for:

1) administering the policy of the University and its Radiation Safety Program and acting as liaison with the CNSC and other regulatory agencies;
2) reviewing all applications for Radioisotope Users' Permits before submission, with recommendations, to the Committee for consideration;
3) maintaining files on all activities involving radioactive materials and sources of hazardous radiation;
4) reviewing orders for the purchase of radioactive materials and other radiation sources and reconciling these with the issued permit;
5) maintaining a campus-wide inventory of radioactive sources by permit. This will be updated regularly by checking purchase orders for radioactive material and by cross-reference with inventories held by users, as necessary;
6) inspecting and surveying laboratories and other workplaces where radioisotopes, or any other radiation emitting devises are used;
7) supervising a radioactive waste collection and disposal service in accordance with approved procedures. This will include assuming responsibility for the proper handling of any radioactive substance which cannot be identified as the responsibility of another individual or department;
8) ordering and supervising decontamination procedures whenever necessary;
9) supervising the safe acceptance of radioisotopes from public carriers;
10) administering the Health Canada personnel dosimeter service and maintaining all necessary records;
11) distributing documents outlining policies and procedures which detail the acquisition and handling, control and disposal of radioactive materials;
12) providing and supervising educational programs on radiation safety for University personnel;
13) advising the Committee on new and proposed Federal and Provincial legislation or items which may affect the use of radiation on campus;
14) serving as the Committee representative when plans are being formulated for new radiation laboratory facilities or alterations to existing laboratories,

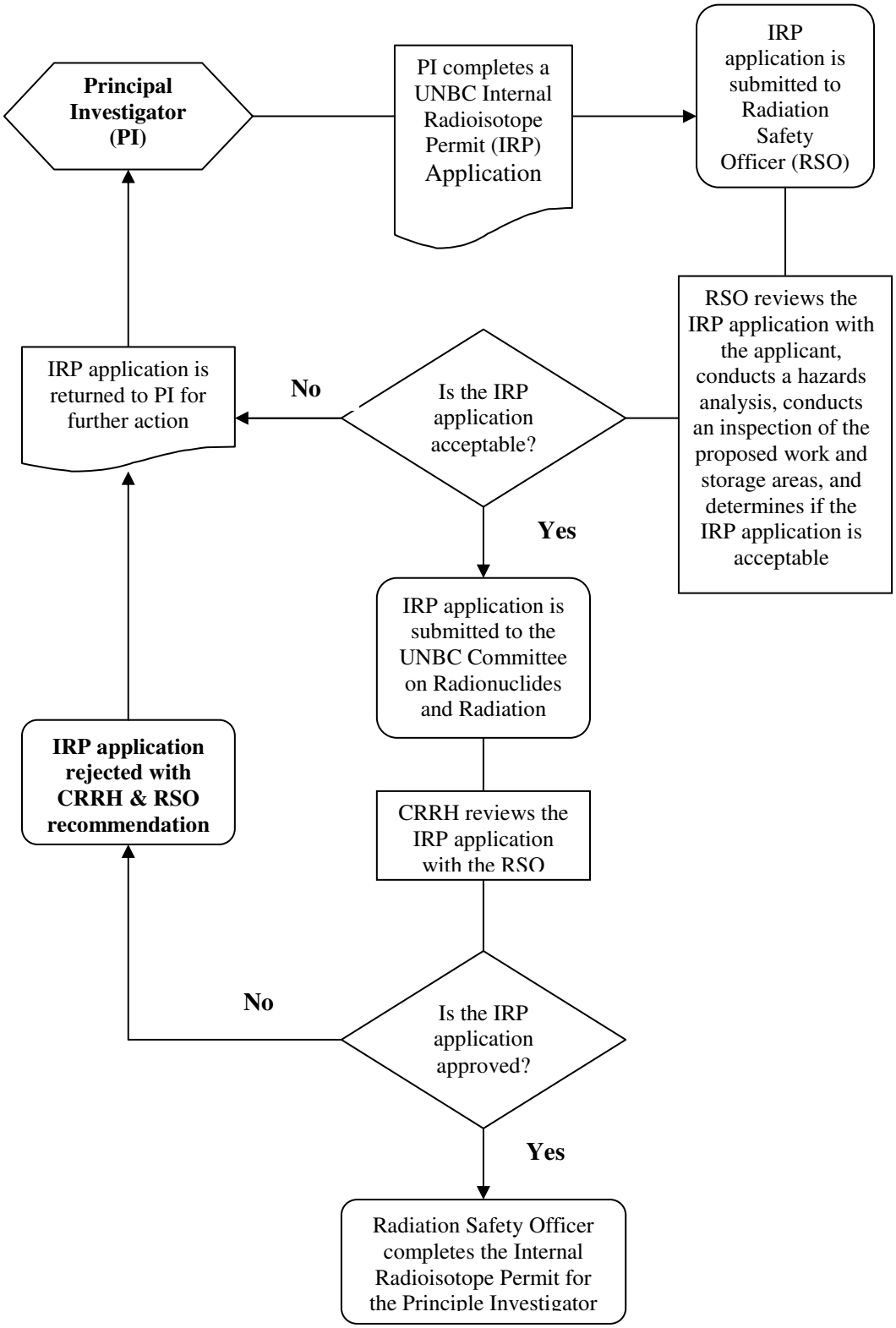
7. Responsibilities of Deans, Directors and Department Chairs

Deans, Directors and Department Chairs are responsible, within their areas of concern, for the following administrative functions:

1) promote the Radiation Safety policies as formulated by the CRRH, federal and provincial agencies;
2) hold Faculty members or supervisors responsible for the implementation and enforcement of applicable safety procedures and safety requirements;
3) authorize necessary expenditures for safety.

8. University Permits

Permits for the use of radioisotopes and radiation emitting devices will be issued by the Committee to qualified persons under the Consolidated University Licence granted by CNSC . These permits do not permit experiments directly involving human subjects.


Principal Investigator (PI)
PI completes a UNBC Internal Radioisotope Permit (IRP) Application
IRP application is submitted to Radiation Safety Officer (RSO)
RSO reviews the IRP application with the applicant, conducts a hazards analysis, conducts an inspection of the proposed work and storage areas, and determines if the IRP application is acceptable
Is the IRP application acceptable?
No
IRP application is returned to PI for further action
Yes
IRP application is submitted to the UNBC Committee on Radionuclides and Radiation
CRRH reviews the IRP application with the RSO
Is the IRP application approved?
No
IRP application rejected with CRRH & RSO recommendation
Yes
Radiation Safety Officer completes the Internal Radioisotope Permit for the Principle Investigator