

	Environmental Health and Safety Manual	
	Policy Number: EH&S 6-3	
Title: <b>Radioactive Material Licensing Procedure</b>		
Effective Date: 9/91	Revision: 2/97	Number of Pages: 5

**PURPOSE:** To establish the proper licensing procedures for Principal Investigators who want to work with radioactive materials.

**SCOPE:** University wide.

**DEFINITIONS:**

**Broad License:** Academic Use License issued by the State of New York at Stony Brook for the use of ionizing radiation.

**RSO:** Radiation Safety Officer

**Senior Investigator:** Principal Investigator who is fully licensed to work with radioactive material on campus.

**PROCEDURES:**

**I. Radiation Protection Program**

Radioisotopes and radiation producing machines have many beneficial uses in research and medical applications. When not properly controlled, however, ionizing radiation can present a hazard to individual users and others in the immediate environment. The health of an individual and the possibility of genetic effects to future generations depends on the amount of radiation exposure an individual receives. Maximum radiation dose limits and radiation protection license guidelines have been established through Federal and State regulations. The radiation protection program establishes uniform policies and procedures for the safe use of all sources of ionizing radiation within the University, ensuring that these sources are stored, used and disposed of in accordance with Federal, State and University regulations. The program provides for monitoring of personnel and facilities, and assists users to ensure that radiation exposure at the University Center is maintained **As Low As Reasonably Achievable (ALARA)**.

**II. Training Requirements**

1. Provisions of the law governing the use of radioactive materials requires that all radioisotope users demonstrate a knowledge of safe practices of handling radioactive materials. The appropriate topics are to be found in the Radiation Protection Manuals. Demonstration of knowledge for this purpose may be satisfied in several ways:
  - a. experience in the use of radioisotopes
  - b. on-the-job training
  - c. examination, either oral or written
  - d. successful completion of a formal course on the safe handling of radioactive materials.
2. The determination of satisfactory knowledge is at the discretion of the Radiation Safety Officer. It is difficult to reduce "satisfactory knowledge" to a simple formula since it depends on the level of activity and the kind of manipulations involved.
3. For Senior Investigator Authorization, a minimum of one year experience with the same kind of experiments and levels of activity is usually sufficient. Examination, either written or oral, may be required if evidence of knowledge is deemed insufficient by the Radiation Safety Officer. Sufficient background may be obtained by either self-study or by attending a lecture-demonstration series offered by the Department of Environmental Health and Safety Radiation Protection Services at periodic intervals. Essentially, information on safe handling methods and campus procedures for obtaining and disposal of radioactivity will be covered.
4. Associate Investigators, e.g., students, technicians or faculty working under the direction of an approved Senior Investigator, require somewhat less experience. Provisional approval will be granted to start work immediately under the direct supervision of the Senior Investigator. It is the Senior Investigator's responsibility to give instruction on approved safe methodology to personnel under his/her direction and supervision. Attendance at the authorized users course at Stony Brook is required for obtaining appropriate knowledge of safe procedures. Provisional Associate Investigators must, within six months, demonstrate knowledge of safe use by the same mechanisms applied to Senior Investigators, although not as detailed a knowledge is expected. Upon such demonstration, Associate Investigator Authorization will be granted for the period of time that the individual is associated with SUNY at Stony Brook.

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### **III. Obtaining Authorization to use Radioactive Materials**

1. All individuals working with radioactive materials must obtain authorization from the University Radiological Protection Committee. Authorizations specify the individual who is granted permission to use radioactive material at Stony Brook, the specific radioisotope and quantity permitted to be used, and the specific application for which the approved radioisotope is to be used. The two types of authorizations that are recognized by the Committee are defined as follows:
  - a. **SENIOR INVESTIGATOR AUTHORIZATIONS** are granted to qualified individuals who are principal investigators of research projects involving radioactive materials, and/or qualified individuals responsible for supervising radioactive materials used by associate users in laboratories.
  - b. **ASSOCIATE INVESTIGATOR AUTHORIZATIONS** are granted to qualified individuals working under the direct supervision of and directly responsible to a Senior Investigator for their use of radioactive materials.
2. Each Senior Investigator will be issued a Radioactive Materials Authorization. This authorization specifies the radioisotope(s), chemical form, the maximum quantity of radioisotopes he/she is authorized to use, and the approved experimental procedures in which the materials will be used.
3. Qualified Associates approved by the University Radiological Protection Committee are authorized to use the materials, procedures, and quantities approved on the Senior Investigator's Authorization.

### **IV. Qualifications for Authorization**

1. Senior Investigator
  - a. Must be the senior researcher of the project or directly responsible for radioactive material use in the laboratory where the material is used.
  - b. Must be a recognized member of the SUNY at Stony Brook faculty or staff.
  - c. Must have a definite and demonstrable application for the radioactive

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materials requested.

- d. Must have a minimum of one year's experience working with radioactive materials.
- e. Must provide documentation of successful completion of academic courses pertaining to, or demonstrate to the satisfaction of the University Radiation Safety Officer, competence in and knowledge of:
  - i. Principles and practices of radiation protection
  - ii. Radioactive measurement standardization and monitoring techniques and instruments
  - iii. Mathematics and calculations basic to the use and measurement of radioactivity
  - iv. Biological effects of radiation
  - v. Regulations contained in the URPC manual.

2. Associate Investigators

- a. Must be working under the direct supervision of a Senior Investigator.
- b. Must be a recognized member of the SUNY at Stony Brook faculty, staff, visitor or student body.
- c. Must provide documentation of successful completion of courses pertaining to, or demonstrate to the satisfaction of the University Radiation Safety Officer, competence in and knowledge of those topics listed in 1.e above.

**V. Applying for Senior Investigator Authorization**

- 1. Obtain the Senior Investigator Authorization material from Radiation Protection Services in the Department of Environmental Health and Safety.
- 2. Complete the form "Application for Senior Investigator Authorization", plus one

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copy of the form Radiation Exposure History. Provide on supplemental sheets all information requested in items 7 through 16 of the form. Explanation and examples of these items will be found attached to the application form.

3. Forward the completed application to the Department of Environmental Health and Safety Radiation Safety Officer.
4. Each applicant will be notified in writing of the decision reached by the University Radiological Protection Committee concerning approval of the application.

#### **VI. Department of Environmental Health and Safety Responsibility**

1. The Radiation Safety Officer will be responsible for reviewing the "Application for Senior Investigator Authorization".
2. The Radiation Safety Officer will make recommendations to the University Radiological Protection Committee regarding the completeness of the application and the radiological impact of the research to be carried out.
3. The Radiation Safety Officer will ensure that all State and University licensing conditions are met prior to permit approval.

#### **INQUIRIES/REQUESTS:**

Environmental Health and Safety  
110 Suffolk Hall  
Zip 6200  
Main Office: 632-6410  
FAX: 632-9683

#### **RELATED FORMS:**

*Application for Senior Investigator Authorization*  
*Department/Group Information*  
*Personnel Radiological Authorization Request*  
*Personnel Training Log*  
*Personnel Exposure Record*  
*Radiological Work Space Authorization Request*  
*Radiological Monitoring Equipment Record*  
*Radioactive Materials Record*  
*Radioactive Material Inventory*  
*Area Contamination Survey*

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*Sealed Source Wipe Tests*

*Incident Record*

*Sink Waste Form*

*Waste Decay Log*

**RELATED DOCUMENTS:**

State Sanitary Code 16

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