

HOWARD UNIVERSITY POLICY

Policy Number: 100-002
Policy Title: MINORS IN RESTRICTED AREAS INVOLVING RESEARCH WITH RADIATION AND RADIOACTIVE MATERIALS
Responsible Officer: Provost and Chief Academic Officer
Responsible Offices: Office of the Deputy Provost for Health Sciences
HU Radiation Safety Committee & Radiation Safety Office
Effective Date: December 14, 2011
May 29, 2012 – Conforming Revisions

I. POLICY STATEMENT

Radioactive materials are potentially hazardous unless used with strict adherence to safety rules and regulations. Safety is the practice of a set of rules, guidelines and procedures which protect workers, facilities, the general public and the working environment. Regulatory compliance is the maintenance of such procedures, documents, and records which are not compromised. All administrators, radiation safety committee members, research investigators, students and other workers who are directly or indirectly involved in the management of radiation safety program at Howard University (the “University”) must adhere to safety and compliance requirements. The safety rules in the research laboratories and clinical facilities govern the safe uses of ionizing radiation and radioactive materials and must provide guidelines on the biological effects of ionizing radiation.

II. RATIONALE

This policy prohibits individuals under the age of 18 years, from receiving unnecessary risks from exposure to radiation and radioactive materials. Radioactive research laboratories at the University must comply with the current license issued by the United States Nuclear Regulatory Commission (US NRC) to conduct research and development activities on non-human subjects.

According to the conditions of the current license, the byproduct, source and/or special nuclear material shall only be used by or under the direct supervision of individuals designated in writing by the Radiation Safety Committee [10 CFR Section 33.17 (b)], with access to research labs restricted to the authorized users whose names are in the license application. The Radiation Safety Committee acknowledges that there are justifiable and productive reasons for restrictions to the presence of minors in the laboratories where radioactive licensed materials are stored. Mentoring minors in University research laboratories where radioactive materials are used may pose liability risk issues for the University.

The mission of the Howard University Radiation Safety Committee is to support research and development activities by providing necessary training and services that enable limited access to minor students or visitors in the University's research laboratories. Because of concerns related to the exposure to radioactive hazards, the following guidelines are necessary to ensure that all potential exposure by minors is minimized.

III. ENTITIES AFFECTED BY THIS POLICY

This policy affects all faculty, students, staff and visitors of Howard University and Howard University Hospital.

IV. DEFINITIONS

A. **Minor** – a person under 18 years old.

1. No minor shall work or volunteer in any capacity that is determined by the principal investigator of the laboratory where the minor is considering to volunteer or work, or by determination of the Radiation Safety Committee to be hazardous or potentially detrimental to the minor's health or well-being.
2. No minor shall be allowed to enter any area where the radiation exposure may be potentially equal to or greater than a total dose of more than 0.1 rem [1 millisievert (mSv)] per year from both internal and external sources.
3. US NRC regulations (10 CFR Section 20.1201, 20.1207) require that the total effective dose equivalent to individuals not working with radioactive material may not exceed 100 mrem per year or 2 mrem in any one hour. These public exposure limits apply to anyone not explicitly trained to work with radioactive material or radiation producing equipment.

B. **Authorized Users of Radioactive Materials** – University employees who are on the current broad scope license and who plan to involve minors in activities in their laboratories. Authorized Users must notify the Radiation Safety Officer (RSO) prior to the minor beginning work in the authorized research laboratory.

V. POLICY PROCEDURES

The privileges of using ionizing radiation require that each individual user strictly adhere to regulations mandated by the regulatory agencies. All individuals who work with radioactive materials or radiation producing devices are required to receive radiation safety training to ensure adherence with regulations. Training should include, but not be limited to, the following:

- A. To ensure that researchers and employee exposure to ionizing radiation is kept *As Low As Reasonably Achievable* (ALARA). This means that the University must work to keep doses as far below the dose limits as can reasonably be achieved.
- B. The University is committed to an effective radiation protection program to avoid unnecessary exposure to radiation and to reduce all exposures to levels that are ALARA, taking into account all social and economic considerations.

The ALARA principle is a formal requirement of the federal and District of Columbia regulatory agencies. To provide for compliance with all applicable regulations promulgated by the federal, state, and local agencies.

If there are compelling reasons for the proposed minor to volunteer or work in a research laboratory that uses any radioactive material, but not directly with radioactive materials or radiation producing machines, the following rules must apply:

- A. Prior approval must be received from the Radiation Safety Committee.
- B. The RSO must review and approve laboratory protocol.
- C. The minor must receive work-related training provided by the laboratory supervisor/principal investigator.
- D. Written consent waiver form has been completed by the minor's parent(s) or legal guardian. [This form is available on the University Policy Office website at www.howard.edu/policy/.]
- E. The minor must attend an approved radiation safety education program attended on safe laboratory techniques and emergency procedures. The minor must be approved by the RSO after completing the education program as able to comply with all laboratory safety rules to the reviewer's satisfaction; this must be documented in written form, with the document on file with the RSO.
- F. Minor(s) will be held accountable for obeying all safety rules and practices of the laboratory.
- G. Authorized users in the laboratory must complete any required accident reports.
- H. All minors must keep their designated work areas safe from risks and hazards.
- I. Minors must be supervised at all times in the laboratory by an authorized user of radioactive materials.
- J. If appropriate, based on any level of potential radiation material exposure, the PI or lab supervisor must issue a temporary radiation monitoring dosimeter.
- K. Minors are not allowed to work with or handle radioactive materials or radiation-producing machines at any time.
- L. Minors are not allowed under any circumstances to enter a work area or laboratory where volatile forms of radioactive material are present, including iodine, volatile derivatives of ^{32}P , or irradiators, or where volatile forms of radioactive material are stored.
- M. Minors are not allowed unsupervised access to a laboratory or work area where volatile, poisonous, or flammable chemicals are stored or used. In addition to the requirements itemized above, the minor must meet any conditions deemed necessary by the Howard University Radiation Safety Officer (RSO).
- N. The Radiation Safety Committee will monitor compliance with this policy. Any incident or exposure to radiation involving a minor is required to be

reported to the principal investigator or lab supervisor immediately. The minor is required to file an incident report under the guidance of the principal investigator or lab supervisor to document the event. The principal investigator or lab supervisor is required to sign the incident report. A copy of the completed report is to be sent to the Radiation Safety Officer immediately. The RSO will then review the report and follow regulations for reporting to the NRC, as permitted under the “Standard for Protection Against Radiation (10 CFR 20)”, “NRC License Compliance & Enforcement Policy”, and NRC Form 5– “Occupational Dose Record for a Monitoring Period.” [Available on the University Policy Office website at www.howard.edu/policy.]

VI. INTERIM POLICIES

This policy supersedes any other written policy on areas contained herein.

VII. SANCTIONS

As with all other policies affecting the use of ionizing radiation, enforcement of this policy is the sole responsibility of the principal investigator or lab supervisor of the laboratory or work area where the minor is working. The professional judgment of the supervisor will be used to assure that the spirit of this policy is appropriately followed. The failure or refusal to follow the policy and procedures as listed, or any other activities which violate the policy, will be referred to the Radiation Safety Committee for appropriate actions. Disciplinary measures available to the Radiation Safety Committee include the following:

- A. Revocation of the minor’s privilege to work in the laboratory.
- B. Violations of this policy by supervisors/principal investigator(s) will result in:
 - 1) Termination of his or her privilege to work with minors in the laboratory.
 - 2) Retraining of the supervisor/principal investigators, with
 - 3) Reapplication to allow minors to work in the laboratory.

VIII. WEBSITE ADDRESS

www.howard.edu/policy